ANNUAL REPORT

OF THE

TRANSIT DEPARTMENT

OF THE

CITY OF BOSTON

1928

Compliments of

TRANSIT DEPARTMENT—CITY OF BOSTON

Thomas F. Sullivan, *Chairman*,
Nathan A. Heller,
James B. Noyes,
Commissioners.

REPORT

OF THE

TRANSIT DEPARTMENT

FOR THE

YEAR ENDING DECEMBER 31, 1928

CITY OF BOSTON
PRINTING DEPARTMENT
1929

[DOCUMENT 32 — 1929.]

ANNUAL REPORT

OF THE

TRANSIT DEPARTMENT

FOR THE YEAR ENDING DECEMBER 31, 1928.

---

1 BEACON STREET, BOSTON, MASS., January 1, 1929.

To the Mayor and City Council of the City of Boston:

The Transit Department submits the following report for the year ending December 31, 1928:

DORCHESTER RAPID TRANSIT.

During 1928 two additional sections of the Dorchester Rapid Transit were completed and on September 1 the railway company commenced operation of the rapid transit line from the Fields Corner Station to Ashmont Station, the Dorchester terminal of the third rail service. The length of the rapid transit service from Harvard Square in Cambridge to the Ashmont Station in the Dorchester district of Boston is a little more than nine miles, the service is frequent, and the running time, including stops at all stations, is twenty-five minutes. The stations in the City of Boston are Park Street Under, Washington, South Station Under, Broadway, Andrew Square, Columbia Road, Savin Hill, Fields Corner, Shawmut and Ashmont.

An overpass furnishing convenient access to the Columbia Road Station to passengers from Crescent avenue is now under construction.

Other work in connection with the opening of this line has called for the construction of buildings over the station entrances at Shawmut and Ashmont, and their equipment.

In order to insure greater safety for railway and vehicular traffic it was necessary to relocate the easterly abutment of the Geneva Avenue Bridge. This work had to be done in a very limited space without interfering with railway traffic, trolley and third rail.

A terminal storage yard, eleven and one-half acres in area, with the necessary buildings, has been constructed at Codman Street. The yard now has track storage for ninety rapid transit cars and sufficient space remains to provide for more than two hundred cars if necessary, as well as room for a repair shop.

The Ashmont Station near Peabody Square is a transfer point for a large section of Dorchester. Provision is made for an interchange of traffic between third rail, high speed trolley, surface cars and buses. The platforms now in use can easily be extended whenever needed. A parking area adjoins the station with a capacity for about two hundred automobiles. There is a direct connection between this area and the station.

From Ashmont Station to Mattapan service will be furnished by high speed trolley cars operating in a private right of way with stations at Cedar Grove, Milton, Central Avenue, Valley Road and Mattapan.

The section between Ashmont and Milton Railroad Station is now under construction. The work includes the reconstruction of highway and railroad bridges and the relocation of steam railroad tracks for freight traffic.

Real Estate.

During the year the Department took by eminent domain twenty-eight parcels of real estate, of which twenty-one were taken in fee and seven in easement. Settlement has been made for eighteen takings, and four parcels no longer needed for transit purposes have been sold.

In connection with the work proposals were advertised, bids received and contracts let for twenty-five different jobs.

BOYLSTON STREET SUBWAY.

The General Court passed the following:

CHAPTER 403.

AN ACT RELATIVE TO THE ELIMINATION OF THE CROSSING AT GRADE AT GOVERNOR SQUARE IN THE CITY OF BOSTON BY STREET RAILWAY CARS USING THE BOYLSTON STREET SUBWAY.

SECTION 1. Chapter three hundred and forty-one of the acts of nineteen hundred and twenty-five is hereby amended by striking out section two and inserting in place thereof the following: Section 2. The transit department of the city of Boston shall make such alterations in and extensions to the Boylston street subway as it may deem necessary for the purpose of eliminating the crossing at grade of Governor square by cars using said subway, for the improvement of street car service on Commonwealth avenue and Beacon street, for the purpose of providing means for a convenient interchange of passengers between cars or trains operated in said subway and those operated on surface lines connecting therewith and for improving the transportation facilities furnished in said subway, and to that end shall have the powers conferred upon the Boston transit commission by chapter seven hundred and forty-one of the acts of nineteen hundred and eleven and amendments thereof. One half of the cost of such alterations and extensions shall be met by bonds to be issued by the city of Boston in the same manner as bonds issued to meet the original cost of the Boylston street subway; and all rentals or other compensation received by said city under this act shall be used in the first instance for the payment of interest on said bonds and the balance shall be used for the payment of the principal of said bonds. The remaining one half of said cost shall be met by bonds to be issued by said city as provided in section four. No such work shall be done, however, unless and until a plan therefor shall be approved by the department of public utilities, and unless and until the Boston Elevated Railway Company shall execute a lease of such alterations and extensions for a term ending with that of the contract for use of said subway or, in the event that the board of directors of said company do not consent to such

lease, for a term ending upon the termination of public operation of said company under chapter one hundred and fifty-nine of the Special Acts of nineteen hundred and eighteen, as from time to time amended. Any plan so approved may be altered at any time by a new plan submitted and approved in like manner, except that after the execution of said lease no such alterations shall be made without the consent of said company thereto in writing. Such lease shall provide that the company shall pay to the city of Boston an annual rental at the rate of two and one fourth per cent per annum upon the net cost of such alterations and extensions. The lease shall be in the same general form as those authorized by said chapter seven hundred and forty-one, except in so far as any other provisions may be agreed upon by said transit department and the company as specially applicable to the demised premises. The said net cost shall be determined in the manner provided in said chapter seven hundred and forty-one, and the rental shall be paid in instalments corresponding to the requirements for the payment of rental in said Boylston street subway.

The city shall have, hold and enjoy in its private or proprietary capacity, for its own property, the said alterations and extensions and all rents, tolls, income and profits from all contracts entered into by it for the use of said alterations or extensions or any part thereof, and the same shall never be taken by the commonwealth except on payment of just compensation.

Sect. 2. Said chapter three hundred and forty-one is hereby further amended by adding at the end thereof the following new section: Section 4. The treasurer of the city of Boston, without any other authority than that contained in this act shall from time to time, on request of the transit department, issue and sell at public or private sale bonds of the city to an amount sufficient to provide funds for the payment of one half of the cost of said alterations and extensions, which bonds shall be outside the statutory limit of indebtedness. Each authorized issue of bonds shall constitute a separate loan. The bonds shall be designated on their face, Governor Square Improvement Bonds, Act of 1928, shall be in such form of coupon bonds, or registered bonds without coupons, or coupon bonds exchangeable for registered bonds, as the treasurer of the city shall determine; shall be for such terms not exceeding fifty years from the dates of issue as the mayor and treasurer of the city shall determine; shall bear interest in

accordance with the provisions of chapter fifty-two of the Special Acts of nineteen hundred and eighteen; and shall be payable by such annual payments as will extinguish the same at maturity and so that the first of the said annual payments on account of any loan shall be made not later than one year after the date of the bonds issued therefor, and that the amount of said payments in any year on account of such loan shall not be less than the amount of the principal of the loan payable in any subsequent year. The said annual amounts, together with the interest on the loan, shall, without further action, be assessed until the debt is extinguished. The treasurer of the city of Boston shall hold the proceeds of said bonds in the treasury of the city, and pay therefrom one half the cost of such alterations and extensions.

SECT. 3. This act shall take effect if and when it is accepted by the mayor of the city of Boston by a writing filed on or before December thirty-first of the current year with the department of public utilities.

His Honor the Mayor did not accept the act.

WASHINGTON STREET TUNNEL.

The removal of the statue of Samuel Adams from Adams Square to Dock Square made necessary the relocation of the Adams Square ventilation shaft of Washington Street Tunnel.

The Department approved a request of the Boston Elevated Railway Company for permission to establish an entrance between the Milk Station and the basement of the Old South Meeting House.

EAST BOSTON VEHICULAR TUNNEL.

Chapter 380 of the Acts of 1928 provided "For the construction of a vehicular tunnel between Boston proper and East Boston and for the creation of a tunnel district."

This act was accepted by the City Council but his Honor Mayor Malcolm E. Nichols returned the order without his approval with the following communication.

CITY OF BOSTON,
OFFICE OF THE MAYOR, December 28, 1928.

To the City Council.

GENTLEMEN,— I return herewith, without my approval, order passed by your honorable body accepting chapter 380 of the Acts of 1928, entitled "An Act to Provide for the Construction

of a Vehicular Tunnel between Boston Proper and East Boston and for the Creation of a Tunnel District."

This bill provides one of the most striking examples of denial to the City of Boston to control its own affairs. It reverses the policy pursued with highly beneficial results for thirty years during which the city has constructed over $50,000,000 worth of tunnels and subways. It takes away the rights of the city in its own streets. It provides a new system of unnecessary administration at a waste of $50,000 a year. It institutes an unworkable system of tunnel tolls. It commits the city to the issue of debt obligations which makes unjust taxation a certainty.

The criticisms which I made of the provisions of this bill in public have never been met, even by those who advocated its acceptance. They cannot be met. The adoption of the policy set forth in the bill is wholly contrary to the principles of home rule for which this city has stood and for which it will always seek recognition.

I strongly favor the immediate building of a traffic tunnel but not upon the impossible terms offered.

* * * * * * * * * * * * * * * * * * *

Upon the opening of the Legislature I shall present a new bill, drawn to correct the serious defects to be found in the present legislation.

Respectfully yours,
MALCOLM E. NICHOLS, *Mayor.*

SINKING FUNDS.

The following is the condition of the debt and of the sinking funds for the various divisions of the work of the department at the date of this report, as stated by the City Treasurer.

SUBWAY (INCLUDING ALTERATIONS).

(Debt, $4,416,000, outside debt limit.)

Amount of fund January 1, 1928		$3,143,044 09
Received:		
Interest on bank deposits January 1, 1928 to date	$1,068 72	
Interest on investments January 1, 1928 to date	123,432 00	
Revenue, etc., January 1, 1928	11,259 00	
		135,759 72
Carried forward		$3,278,803 81

Brought forward		$3,278,803 81
Paid:		
Interest on investments purchased January 1, 1928 to date	$127 50	
Premium on investments purchased January 1, 1928 to date	2,519 84	
		2,647 34
		$3,276,156 47

CHARLESTOWN BRIDGE, No. 1.

(Debt, $750,000, inside debt limit.)

Amount of fund January 1, 1928		$503,702 76
Received:		
Interest on bank deposits January 1, 1928 to date	$735 38	
Interest on investments January 1, 1928 to date	18,215 00	
Appropriation for debt	3,902 00	
Revenue, etc., January 1, 1928	8,909 63	
		31,762 01
		$535,464 77

CHARLESTOWN BRIDGE, No. 2.

(Debt, $665,000, outside debt limit.)

Amount of fund January 1, 1928		$579,156 13
Received:		
Interest on bank deposits January 1, 1928 to date	$775 77	
Interest on investments January 1, 1928 to date	22,735 00	
		23,510 77
		$602,666 90
Paid:		
Interest on investments purchased January 1, 1928 to date		10 42
		$602,656 48

EAST BOSTON TUNNEL.

(Debt, $3,334,000, outside debt limit.)

Amount of fund January 1, 1928		$1,827,354 43
Received:		
Interest on bank deposits January 1, 1928 to date	$874 88	
Interest on investments January 1, 1928 to date	60,097 50	
Revenue, etc., January 1, 1928 to date	5,085 00	
		66,057 38
Carried forward		$1,893,411 81

Brought forward		$1,893,411 81
Paid:		
Interest on investments purchased January 1, 1928 to date		10 42
		$1,893,401 39

BOSTON TUNNEL AND SUBWAY.

(Debt, $8,382,700, outside debt limit.)

Amount of fund January 1, 1928		$3,256,264 55
Received:		
Interest on bank deposits January 1, 1928 to date	$968 64	
Interest on investments January 1, 1928 to date	132,117 76	
Revenue, etc., January 1, 1928 to date	64,680 00	
		197,766 40
		$3,454,030 95
Paid:		
Interest on investments purchased January 1, 1928 to date	$185 00	
Premium on investments purchased January 1, 1928 to date	2,671 80	
		2,856 80
		$3,451,174 15

RAPID TRANSIT — CAMBRIDGE CONNECTION.

(Debt, $1,645,000, outside debt limit.)

Amount of fund January 1, 1928		$356,237 88
Received:		
Interest on bank deposits January 1, 1928 to date	$337 80	
Interest on investments January 1, 1928 to date	19,555 00	
Revenue, etc., January 1, 1928 to date	15,276 00	
		35,168 80
		$391,406 68
Paid:		
Interest on investments purchased January 1, 1928 to date	$326 39	
Premium on investments purchased January 1, 1928 to date	1,123 53	
		1,449 92
		$389,956 76

BOYLSTON STREET SUBWAY.

(Debt, $5,395,000, outside debt limit.)

Amount of fund January 1, 1928		$95,923 88
Received:		
Interest on bank deposits January 1, 1928 to date	$309 53	
Interest on investments January 1, 1928 to date	3,601 25	
Revenue, etc., January 1, 1928 to date	15,984 93	
		19,895 71
		$115,819 59
Paid:		
Interest on investments purchased January 1, 1928 to date		15 62
		$115,803 97

EAST BOSTON TUNNEL EXTENSION.

(Debt, $2,500,000, outside debt limit.)

Amount of fund January 1, 1928		$215,093 89
Received:		
Interest on bank deposits January 1, 1928 to date	$204 95	
Interest on investments January 1, 1928 to date	8,878 50	
Revenue, etc., January 1, 1928 to date	5,038 01	
		14,121 46
		$229,215 35
Paid:		
Interest on investments purchased January 1, 1928 to date		10 42
		$229,204 93

DORCHESTER TUNNEL.

(Debt, $12,115,000, outside debt limit.)

Amount of fund January 1, 1928		$446,735 97
Received:		
Interest on bank deposits January 1, 1928 to date	$391 80	
Interest on investments January 1, 1928 to date	22,348 75	
Revenue, etc., January 1, 1928 to date	71,328 47	
		94,069 02
Carried forward		$540,804 99

Brought forward		$540,804 99
Paid:		
Interest on investments purchased January 1, 1928 to date	$296 60	
Premium on investments purchased January 1, 1928 to date	3,067 07	
		3,363 67
		$537,441 32

EAST BOSTON TUNNEL ALTERATIONS.

(*Debt, $3,900,000, outside debt limit.*)

Amount of fund January 1, 1928		$56,113 27
Received:		
Interest on bank deposits January 1, 1928 to date	$307 70	
Interest on investments January 1, 1928 to date	1,651 25	
Revenue, etc., January 1, 1928 to date .	9,428 58	
		11,387 53
		$67,500 80
Paid:		
Interest on investments purchased January 1, 1928 to date		15 62
		$67,485 18

HYDE PARK STREET RAILWAY.

(*Debt, $322,000, outside debt limit.*)

Amount of fund January 1, 1928		$34,546 42
Received:		
Interest on bank deposits January 1, 1928 to date	$345 30	
Interest on investments January 1, 1928 to date	1,020 00	
Appropriation for debt January 1, 1928 to date	8,300 00	
		9,665 30
		$44,211 72

TREMONT STREET SUBWAY ALTERATIONS — ACTS 1924 — CHAPTER 120.

(*Debt, $50,000, outside debt limit.*)

(No fund.)

EAST BOSTON TUNNEL ALTERATIONS — ACTS 1924 — CHAPTER 120.

(*Debt, $20,000, outside debt limit.*)

(No fund.)

RENTAL BILLS RENDERED TO THE BOSTON ELEVATED RAILWAY COMPANY.

The following is a statement of the bills rendered for rental of the various tunnels and subways:

TREMONT STREET SUBWAY.

March 31, 1928:		
Net cost of subway	$4,144,319 82	
Rental for one quarter		$46,623 60
Alterations: net cost	242,673 93	
Rental for one quarter		2,730 08
June 30, 1928:		
Net cost of subway	4,144,717 55	
Rental for one quarter		46,628 07
Alterations: net cost	242,673 93	
Rental for one quarter		2,730 08
September 30, 1928:		
Net cost of subway	4,144,717 55	
Rental for one quarter		46,628 07
Alterations: net cost	242,673 93	
Rental for one quarter		2,730 08
December 31, 1928:		
Net cost of subway	4,145,004 10	
Rental for one quarter		46,631 29
Alterations: net cost	242,673 93	
Rental for one quarter		2,730 08
Total		$197,431 35

WASHINGTON STREET TUNNEL.

March 31, 1928:		
Net cost of tunnel	$7,943,436 71	
Rental for one quarter		$89,363 66
June 30, 1928:		
Net cost of tunnel	7,943,461 45	
Rental for one quarter		89,363 94
September 30, 1928:		
Net cost of tunnel	7,943,486 14	
Rental for one quarter		89,364 22
December 31, 1928:		
Net cost of tunnel	7,943,722 06	
Rental for one quarter		89,366 87
Total		$357,458 69

CAMBRIDGE CONNECTION.

March 31, 1928:		
Net cost of connection	$1,643,899 58	
Rental for one quarter		$20,035 03
June 30, 1928:		
Net cost of connection	1,647,149 88	
Rental for one quarter		20,074 64
September 30, 1928:		
Net cost of connection	1,649,776 36	
Rental for one quarter		20,106 65
December 31, 1928:		
Net cost of connection	1,650,836 11	
Rental for one quarter		20,119 56
Total		$80,335 88

BOYLSTON STREET SUBWAY.

March 31, 1928:		
Net cost of subway	$5,250,249 81	
Rental for one quarter		$59,065 31
June 30, 1928:		
Net cost of subway	5,250,249 81	
Rental for one quarter		59,065 31
September 30, 1928:		
Net cost of subway	5,250,249 81	
Rental for one quarter		59,065 31
December 31, 1928:		
Net cost of subway	5,251,331 75	
Rental for one quarter		59,077 48
Total		$236,273 41

EAST BOSTON TUNNEL EXTENSION.

March 31, 1928:		
Net cost of extension	$2,334,494 83	
Rental for one quarter		$26,263 07
June 30, 1928:		
Net cost of extension	2,334,494 83	
Rental for one quarter		26,263 07
September 30, 1928:		
Net cost of extension	2,334,494 83	
Rental for one quarter		26,263 07
December 31, 1928:		
Net cost of extension	2,334,494 83	
Rental for one quarter		26,263 07
Total		$105,052 28

DORCHESTER TUNNEL.

March 31, 1928:		
Net cost of tunnel	$12,142,077 40	
Rental for one quarter		$136,598 37
June 30, 1928:		
Net cost of tunnel	12,143,602 78	
Rental for one quarter		136,615 53
September 30, 1928:		
Net cost of tunnel	12,145,309 99	
Rental for one quarter		136,634 74
December 31, 1928:		
Net cost of tunnel	12,145,351 79	
Rental for one quarter		136,635 21
Total		$546,483 85

ARLINGTON STATION.

March 31, 1928:		
Net cost of station	$1,217,425 06	
Rental for one quarter		$13,696 03
June 30, 1928:		
Net cost of station	1,219,427 97	
Rental for one quarter		13,718 56
September 30, 1928:		
Net cost of station	1,219,423 09	
Rental for one quarter		13,718 51
December 31, 1928:		
Net cost of station	1,219,426 19	
Rental for one quarter		13,718 55
Total		$54,851 65

EAST BOSTON TUNNEL.

March 31, 1928:		
Net cost of tunnel	$3,395,852 82	
Rental for one quarter		$38,203 35
June 30, 1928:		
Net cost of tunnel	3,396,019 58	
Rental for one quarter		38,205 22
September 30, 1928:		
Net cost of tunnel	3,396,132 98	
Rental for one quarter		38,206 50
December 31, 1928:		
Net cost of tunnel	3,396,224 01	
Rental for one quarter		38,207 52
Total		$152,822 59

HYDE PARK STREET RAILWAY.

March 31, 1928:		
Net cost of premises	$231,099 45	
Rental for one quarter		$2,599 87
June 30, 1928:		
Net cost of premises	231,099 45	
Rental for one quarter		2,599 87
September 30, 1928:		
Net cost of premises	231,099 45	
Rental for one quarter		2,599 87
December 31, 1928:		
Net cost of premises	231,099 45	
Rental for one quarter		2,599 87
Total		$10,399 48

EAST BOSTON TUNNEL ALTERATIONS.

March 31, 1928:		
Net cost of alterations	$3,773,940 19	
Rental for one quarter		$42,456 83
June 30, 1928:		
Net cost of alterations	3,774,004 59	
Rental for one quarter		42,457 55
September 30, 1928:		
Net cost of alterations	3,773,978 55	
Rental for one quarter		42,457 26
December 31, 1928:		
Net cost of alterations	3,773,975 25	
Rental for one quarter		42,457 22
Total		$169,828 86

DORCHESTER RAPID TRANSIT.

December 31, 1928:		
Value of premises	$8,000,000 00	
Rental for one quarter		$90,000 00
Total		$90,000 00

TOTALS.

Tremont Street Subway	$197,431 35
Washington Street Tunnel	357,458 69
Cambridge Connection	80,335 88
Boylston Street Subway	236,273 41
Carried forward,	$871,499 33

Brought forward	$871,499 33
East Boston Tunnel Extension	105,052 28
Dorchester Tunnel	546,483 85
Arlington Station	54,851 65
East Boston Tunnel	152,822 59
Hyde Park Street Railway	10,399 48
East Boston Tunnel Alterations	169,828 86
Dorchester Rapid Transit	90,000 00
	$2,000,938 04

STATEMENT OF EXPENSES.

The following is a classified statement of the expenses of the department for the year ending December 31, 1928.

EAST BOSTON TUNNEL.

SECTION B.

Construction Expenses:			
Labor	$448 41		
Field Supplies	*Cr.* 10 64		
			$437 77

BOSTON TUNNEL AND SUBWAY.

SECTION 2.

Engineering Expenses:			
Skilled Service		$24 74	

SECTION 4.

Engineering Expenses:			
Skilled Service		57 54	

SECTION 5.

Engineering Expenses:			
Skilled Service	$48 87		
Stationery — Supplies	*Cr.* 1 40		
	$47 47		
Construction Expenses:			
Construction	*Cr.* $23 15		
Labor	*Cr.* 323 17		
	346 32		
		Cr. 298 85	

SECTION 8.

Engineering Expenses:			
Skilled Service	$20 84		
Construction Expenses:			
Construction	$33 86		
Labor	584 80		
	618 66		
		639 50	
			$422 93

CAMBRIDGE CONNECTION.

SECTION 1.

Engineering Expenses:			
Skilled Service		$3 36	

SECTION 2.

Construction Expenses:			
Escalators		7,716 19	
			$7,719 55

DORCHESTER TUNNEL.

SECTION D.

Engineering Expenses:			
Skilled Service		$19 85	
Construction Expenses:			
Escalators		2,322 80	
			$2,342 65

SECTION F.

Construction Expenses:			
Escalators		$425 78	
Labor		340 06	
			765 84

SECTION J.

Engineering Expenses:			
Skilled Service	$33 37		
Stationery — Supplies	4 80		
		$38 17	
Construction Expenses:			
Construction	$32 70		
Escalators	1,658 15		
Field Supplies	5 85		
Labor	1,547 79		
Tools	15 29		
		3,259 78	
			3,297 95

SECTION K.

Engineering Expenses:			
Skilled Service	$276 37		
Stationery — Supplies	1 65		
		$278 02	
Construction Expenses:			
Interest	$24,055 55		
Labor	10 00		
	$24,065 55		
Construction	*Cr.* 281 80		
		23,783 75	
			24,061 77
			$30,468 21

BOYLSTON STREET SUBWAY.

Engineering Expenses:			
Skilled Service			$38 84

SECTION 1.

Engineering Expenses:			
Skilled Service		$1,473 08	
Stationery — Supplies		15 00	
			1,488 08

SECTION 5.

Engineering Expenses:			
Skilled Service			10 54
			$1,537 46

ARLINGTON STATION.

Construction Expenses:			
Labor	$1,872 64		
Tools	22 65		
	$1,895 29		
Construction	*Cr.* 43 30		
		$1,851 99	
Extension:			
Stationery — Supplies		1 39	
			$1,853 38

EAST BOSTON TUNNEL ALTERATIONS.

Construction Expenses:			
Construction	$3 72		
Labor	32 00		
Paving	27 00		
		$62 72	
Field Supplies	*Cr.* $18 90		
Tools	*Cr.* 1 20		
		20 10	
			$42 62

HYDE PARK STREET RAILWAY.

Construction Expenses:			
Property Damages — Takings			*Cr.* $3,950 00

TREMONT STREET SUBWAY ALTERATIONS — ACTS 1924.

Cambridge and Court Streets Widening:				
Scollay Station Changes:				
Engineering Expenses:				
Skilled Service	$28 96			
Stationery — Supplies	1 72			
		$30 68		
Construction Expenses:				
Construction	$1,139 22			
Field Supplies	19 31			
Labor	50 02			
Tools	7 44			
		1,215 99		
			$1,246 67	
Park Street Station:				
Changing Columns:				
Engineering Expenses:				
Skilled Service	$2,372 97			
Stationery — Supplies	2 40			
		$2,375 37		
Construction Expenses:				
Construction	$56 98			
Labor	435 62			
Lighting	10 00			
		502 60		
			2,877 97	
Hanover Street Entrance:				
Construction Expenses:				
Labor			20 54	
				$4,145 18

EAST BOSTON TUNNEL ALTERATIONS — ACTS 1924.

Cambridge and Court Streets Widening:			
Scollay Station Changes:			
Engineering Expenses:			
Stationery — Supplies		$14 27	
Construction Expenses:			
Construction	$731 29		
Field Supplies	9 79		
Labor	39 62		
Tools	4 96		
		785 66	
			$799 93
Scollay Station Changes:			
Escalators			19 29
			$819 22

CAMBRIDGE AND COURT STREETS WIDENING.

Bills paid by Street Laying-Out Department	*Cr.* $163 82

DORCHESTER RAPID TRANSIT.

Office:			
Clerks		$5,800 80	
Commissioners		17,500 00	
Furniture		35 90	
Lighting		574 82	
Office Boy		596 00	
Printing		269 10	
Rental		7,854 15	
Stationery — Supplies		611 09	
Stenographer — Conveyancer		2,991 56	
Telephone — Telegraph		2 394 57	
		$38,627 99	
Interest		325,769 16	
			$364,397 15
Engineering Expenses:			
Chief Engineer		$9,000 00	
Clerks		4,806 49	
Furniture		12 25	
Instruments		26 31	
Lighting		600 60	
Printing		186 35	
Professional Advice		2,310 00	
Rental		8,608 35	
Repairs		32 78	
Skilled Service		4,945 83	
Stationery — Supplies		2,152 63	
Stenographer		2,561 27	
Telephone — Telegraph		847 35	
			36,090 21
Miscellaneous Expenses:			
Autos		$1,565 04	
Equipment — Inspection		155 86	
Labor		298,776 52	
Material		187,478 61	
Service		3,060 93	
Carried forward		$491,036 96	$400,487 36

Brought forward . . .		$491,036 96	$400,487 36
Labor		—	
Rental — Yard		3,962 50	
		$494,999 46	
Acquisition Shawmut Branch .		*Cr.* 2,581 19	
			492,418 27
	SECTION 1.		
M. F. Gaddis (Contract 790) .		$18,762 33	
Stations:			
Columbia . .	$967 83		
Savin . . .	*Cr.* 4,334 20		
		Cr. 3,366 37	
Field Offices:			
Crescent Ave. .	$9 14		
Savin . . .	42 99		
		52 13	
Bridges:			
Columbia Station Overpass .	$21,475 91		
Freeport Under .	72 23		
		21,548 14	
		$36,996 23	
Miscellaneous Expenses:			
Clerks . . .	$120 48		
Construction .	2,271 44		
Field Supplies .	31 20		
Fuel . . .	203 70		
Inspection . .	790 57		
Instruments .	9 85		
Labor . . .	422 84		
Lighting . .	19 49		
Main Line Track Changes . .	7,803 49		
Professional Advice . . .	369 85		
Property Damages — Takings	28,630 47		
Skilled Service .	13,550 25		
Stationery — Supplies . .	46 64		
	$54,270 27		
Paving . .	*Cr.* 904 49		
		53,365 78	
			90,362 01
	SECTION 2.		
A. G. Tomasello & Son, Inc. (Contract 804) . . .		$17,563 32	
Stations:			
Fields Corner .	$25,234 87		
Fields Corner — Enclosed Area,	437,722 59		
Harrison Sq. Substation . .	2,011 32		
		464,968 78	
Field Office:			
Fields Corner		531 07	
Carried forward . . .		$483,063 17	$983,267 64

Brought forward . . .		$483,063 17	$983,267 64
Bridges:			
Geneva Avenue .	$236 15		
Geneva Avenue — Relocation Abutment .	60,921 92		
		61,158 07	
Miscellaneous Expenses:			
Clerks . . .	$696 11		
Construction .	4,210 67		
Inspection . .	20 00		
Instruments .	32 02		
Labor . . .	2,010 44		
Lighting . .	19 49		
Paving . .	61 00		
Professional Advice . . .	994 71		
Skilled Service .	4,164 35		
Stationery — Supplies . .	310 12		
Stenographers .	92 00		
	$12,610 91		
Field Supplies .	*Cr.* 22 93		
Property Damages — Takings	*Cr.* 19,137 48		
Tools . . .	*Cr.* 67		
		Cr. 6,550 17	
			537,671 07

SECTION 3.

C. & R. Construction Co. (Contract 805)		$51,472 55	
Station:			
Shawmut		46,434 32	
Field Office:			
Shawmut		2 47	
Miscellaneous Expenses:			
Advertising .	$15 75		
Autos . . .	2 20		
Clerks . .	739 34		
Construction .	15,418 16		
Field Supplies .	305 61		
Labor . . .	15,015 26		
Lighting . .	19 49		
Paving . .	24 40		
Professional Advice . .	347 35		
Property Damages — Takings	184 00		
Skilled Service .	4,256 08		
Stationery — Supplies . .	132 76		
Stenographers .	398 27		
Teaming . .	475 48		
Tools . . .	225 76		
Water pipes .	3,322 58		
		40,882 49	
			138,791 83
Carried forward			$1,659,730 54

Brought forward			$1,659,730 54
		SECTION 4.	
C. &. R. Construction Co. (Contract 872)		$252,762 96	
Stations and Buildings:			
Ashmont Sta. .	$244,025 59		
Ashmont Sub-Station . .	111,633 70		
Ashmont Signal Tower . .	30,796 79		
Yardmen's Building . . .	18,659 59		
		405,115 67	
Field Office:			
Ashmont		260 86	
Bridge:			
Beale Street Passageway . .		8,796 92	
Miscellaneous Expenses:			
Advertising .	$138 90		
Autos . . .	1,718 49		
Clerks . . .	2,239 40		
Construction .	58,450 95		
Equipment—			
Service . .	45 50		
Field Supplies .	4,815 73		
Fuel . . .	428 33		
Inspection . .	133 01		
Instruments .	130 52		
Labor . . .	63,003 77		
Lighting . .	1,269 60		
Paving . .	1,888 36		
Printing . .	669 15		
Professional Advice . . .	200 00		
Property Damages — Takings	23,914 00		
Skilled Service .	28,230 47		
Stationery — Supplies . .	618 42		
Steel — Labor .	1,807 94		
Steel — Material,	102 92		
Teaming . .	166 25		
Telephone — Telegraph . .	28 14		
Tools . . .	6,710 09		
Water pipes .	1,807 19		
		198,517 13	
			865,453 54
		SECTION 5A.	
M. F. Gaddis (Contract 920) .		$99,573 93	
Bridges:			
Crest Ave .	$7,698 58		
Milton . .	15,384 91		
Shawmut Junction — Underpass . .	6,487 61		
		29,571 10	
Carried forward . . .		$129,145 03	$2,525,184 08

Brought forward . .		$129,145 03	$2,525,184 08
Miscellaneous Expenses:			
Advertising .	$203 13		
Autos . . .	237 47		
Clerks . . .	907 38		
Construction .	34,053 85		
Equipment—			
Inspection .	339 35		
Field Supplies .	978 43		
Fuel . . .	213 35		
Inspection . .	1,476 59		
Instruments .	17 69		
Labor . .	14,118 83		
Lighting . .	115 91		
Printing . .	412 66		
Professional Advice . . .	2,875 00		
Property Damages — Takings . . .	10,397 12		
Skilled Service .	33,491 63		
Stationery — Supplies . .	1,348 05		
Steel — Labor .	296 22		
Steel — Material,	11,044 44		
Track Changes .	2,316 50		
Tools . . .	989 18		
Water Pipes .	173 98		
		116,006 76	
			245,151 79
SECTION 5B.			
Station:			
Milton		$447 26	
Field Office:			
Milton		537 40	
Bridges:			
Adams Street .	$2,671 34		
Pine Tree Brook,	465 25		
		3,136 59	
Miscellaneous Expenses:			
Labor . . .	$341 99		
Skilled Service .	5,161 51		
		5,503 50	
			9,624 75
SECTION 5C.			
Stations:			
Mattapan . .	$102 67		
Valley Road .	24 26		
		$126 93	
Bridge:			
Mattapan		2,200 95	
Miscellaneous Expenses:			
Labor . . .	$273 38		
Skilled Service .	2,935 71		
		3,209 09	
			5,536 97
			$2,785,497 59

Increase:		
East Boston Tunnel	$437 77	
Boston Tunnel and Subway	422 93	
Cambridge Connection	7,719 55	
Dorchester Tunnel	30,468 21	
Boylston Street Subway	1,537 46	
Arlington Station	1,853 38	
East Boston Tunnel Alterations	42 62	
Hyde Park Street Railway	*Cr.* 3,950 00	
Tremont Street Subway Alterations — Acts 1924	4,145 18	
East Boston Tunnel Alterations — Acts 1924	819 22	
Dorchester Rapid Transit	2,785,497 59	
Cambridge and Court Streets Widening	*Cr.* 163 82	
		$2,828,830 09

SUMMARY.

	From beginning of work to Dec. 31, 1927.	Jan. 1, 1928, to Dec. 31, 1928.	Total.
Subway — Subway Commission	$14,131 16		$14,131 16
Part of General Expenses, Engineering and miscellaneous	117,550 71		117,550 71
Section One	407,475 48		407,475 48
Two	239,407 12		239,407 12
Three	363,605 50		363,605 50
Three and one-half	300,639 36		300,639 36
Four	9,355 70		9,355 70
Five	472,147 31		472,147 31
Six	387,411 49		387,411 49
Seven	327,541 86		327,541 86
Eight	231,504 27		231,504 27
Eight and one-half	95,902 06		95,902 06
Nine	76,639 47		76,639 47
Ten	299,452 07		299,452 07
Eleven	254,497 88		254,497 88
Interest	270,310 57		270,310 57
	258,575 60		258,575 60
	$4,126,147 61		$4,126,147 61
Transfer to Alterations, see 11th report	4 95		4 95
	$4,126,142 66		$4,126,142 66
Alterations — Part of General Expenses	$28,945 53		$28,945 53
Section Three	2,568 26		2,568 26
Four	163 42		163 42
Five	30,233 01		30,233 01
Seven	178,516 16		178,516 16
Nine	3 00		3 00
Ten	534 04		534 04
Interest	1,905 56		1,905 56
Transfer from subway, see 11th report	4 95		4 95
	$242,873 93		$242,873 93

	From beginning of work to Dec. 31, 1927.	Jan. 1, 1928, to Dec. 31, 1928.	Total.
Charlestown Bridge:			
Total	$1,570,197 98		$1,570,197 98
Investigation of Congestion of Traffic, etc.	$3,015 92		$3,015 92
East Boston Tunnel —			
Part of General Expenses	$161,134 78		$161,134 78
Engineering and miscellaneous	199,688 73		199,688 73
Section A	98,869 09		98,869 09
B	1,488,716 99	$437 77	1,489,154 76
C	508,202 77		508,202 77
D	246,569 26		246,569 26
E	188,307 72		188,307 72
F	243,763 23		243,763 23
Interest	248,156 88		248,156 88
	$3,383,409 45	$437 77	$3,383,847 22
Boston Tunnel and Subway — Part of General Expenses	$226,547 21		$226,547 21
Engineering and miscellaneous	419,490 59		419,490 59
Section One	815,591 24		815,591 24
Two	614,158 55	$24 74	614,183 29
Three	683,842 49		683,842 49
Four	1,205,265 07	57 54	1,205,322 61
Five	1,080,426 43	*Cr.* 298 85	1,080,127 58
Six	351,508 79		351,508 79
Seven	139,723 14		139,723 14
Eight	617,152 07	639 50	617,791 57
Nine	678,964 18		678,964 18
Ten	142,835 42		142,835 42
Eleven	345,493 91		345,493 91
Twelve	45,417 52		45,417 52
Interest	648,179 81		648,179 81
	$8,014,596 42	$422 93	$8,015,019 35
Cambridge Connection —			
Part of General Expenses	$67,261 25		$67,261 25
Engineering and miscellaneous	258,505 56		258,505 56
Section One	590,277 28	$3 36	590,280 64
Two	643,633 35	7,716 19	651,349 54
Interest	76,722 00		76,722 00
	$1,636,399 44	$7,719 55	$1,644,118 99
Dorchester Tunnel — Part of General Expenses	$197,392 47		$197,392 47
Engineering and miscellaneous	833,272 33		833,272 33
Carried forward	$1,030,664 80		$1,030,664 80

	From beginning of work to Dec. 31, 1927.	Jan. 1, 1928, to Dec. 31, 1928.	Total.
Brought forward	$1,030,664 80		$1,030,664 80
Section A	409,378 71		409,378 71
C	460,379 33		460,379 33
B	884,472 44		884,472 44
D	1,127,367 73	$2,342 65	1,129,710 38
E	2,366,598 58		2,366,598 58
F	867,677 11	765 84	868,442 95
G	615,245 51		615,245 51
H	892,879 48		892,879 48
J	964,334 38	3,297 95	967,632 33
K	1,292,010 13	24,061 77	1,316,071 90
Interest	1,312,320 20		1,312,320 20
	$12,223,328 40	$30,468 21	$12,253,796 61
Boylston Street Subway — Part of General Expenses	$104,155 53		$104,155 53
Engineering and miscellaneous	240,002 03	$38 84	240,040 87
Section One	761,603 46	1,488 08	763,091 54
Two	1,232,792 88		1,232,792 88
Three	585,564 58		585,564 58
Four	1,458,935 20		1,458,935 20
Five	729,130 63	10 54	729,141 17
Interest	320,194 59		320,194 59
	$5,432,378 90	$1,537 46	$5,433,916 36
East Boston Tunnel Extension — Part of General Expenses	$38,383 04		$38,383 04
Engineering and miscellaneous	976,250 79		976,250 79
Section G	328,592 37		328,592 37
H	673,456 36		673,456 36
J	135,724 66		135,724 66
Interest	224,138 91		224,138 91
	$2,376,546 13		$2,376,546 13
Arlington Station — Part of General Expenses	$41,313 26		$41,313 26
Engineering and miscellaneous	72,952 00		72,952 00
Construction	580,012 92	$1,851 99	581,864 91
Extension	483,003 78	1 39	483,005 17
Interest	55,738 68		55,738 68
	$1,233,020 64	$1,853 38	$1,234,874 02
East Boston Tunnel Alterations — Part of General Expenses	$75,407 79		$75,407 79
Engineering and miscellaneous	171,767 65		171,767 65
Construction	3,407,131 89	$42 62	3,407,174 51
Interest	168,217 76		168,217 76
	$3,822,525 09	$42 62	$3,822,567 71

	From beginning of work to Dec. 31, 1927.	Jan. 1, 1928, to Dec. 31, 1928.	Total.
Hyde Park Street Railway —Part of General Expenses	$2,195 04		$2,195 04
Engineering and miscellaneous	313,660 98	*Cr.* $3,950 00	309,710 98
	$315,856 02	*Cr.* $3,950 00	$311,906 02
Cambridge and Court Streets Widening — Bills paid by Street Laying-Out Department,	$163 82	*Cr.* $163 82	
Tremont Street Subway Alterations — Acts 1924, Part of General Expenses	$1,093 59		$1,093 59
Engineering and miscellaneous	819 20		819 20
Adams Station	2,401 75		2,401 75
Brattle Street — Easterly Platform	7,723 72		7,723 72
Hanover Street	28 56	$20 54	49 10
Haymarket Station	15,161 01		15,161 01
Park Street Station — North Platform	4,486 41		4,486 41
Column Changes	720 01	2,877 97	3,597 98
Scollay Station	420 80		420 80
Scollay Station Changes — Cambridge and Court Streets Widening	6,065 17	1,246 67	7,311 84
	$38,920 22	$4,145 18	$43,065 40
East Boston Tunnel Alterations, Acts 1924:			
Atlantic Station	$2,547 08		$2,547 08
East Boston Tunnel	5,105 13		5,105 13
Scollay Station	48 72	$19 29	68 01
Scollay Station Changes — Cambridge and Court Streets Widening	3,856 64	799 93	4,656 57
	$11,557 57	$819 22	$12,376 79
Dorchester Rapid Transit — Part of General Expenses	$130,507 09	$38,627 99	$169,135 08
Engineering and miscellaneous	1,974,986 15	528,508 48	2,503,494 63
Section One	1,708,541 38	90,362 01	1,798,903 39
Two	1,011,465 79	537,671 07	1,549,136 86
Three	739,089 14	138,791 83	877,880 97
Four	546,752 14	865,453 54	1,412,205 68
Five	20,598 11	260,313 51	280,911 62
Interest	159,666 67	325,769 16	485,435 83
	$6,291,606 47	$2,785,497 59	$9,077,104 06

	From beginning of work to Dec. 31, 1927.	Jan. 1, 1928, to Dec. 31, 1928.	Total.
Chapter 78 — Resolves of 1913	$389 14		$389 14
Chapter 84 — Resolves of 1913	$636 58		$636 58
Dorchester Tunnel Extension	$520 19		$520 19
Grand Totals . .	$50,724,084 97	$2,828,830 09	$53,552,915 06

The report of the Chief Engineer giving the work in detail follows.

THOMAS F. SULLIVAN,
NATHAN A. HELLER,
JAMES B. NOYES,
Commissioners.

REPORT OF THE CHIEF ENGINEER.

Boston, December 31, 1928.

Thomas F. Sullivan, Nathan A. Heller and James B. Noyes, *Commissioners, City of Boston Transit Department.*

Gentlemen,— I herewith submit a report for the year ending December 31, 1928.

During the past year two additional sections of the Dorchester Rapid Transit were completed and put in operation. These were Sections Three and Four, extending from Fields Corner to Codman Street, beyond Ashmont. Section Three, the covered section, included the Shawmut Station. Section Four included the Ashmont Transfer Station and the Codman Street Yard. Other construction work finished during the year was the enclosed area with bus terminal and central heating plant at Fields Corner. A new bridge just east of the old Geneva Avenue Bridge near Fields Corner was also built and finished in the fall of the year.

The engineering work of the department has continued along the lines described in previous reports, the field work being under the direction of Assistant Chief Engineer Wilbur W. Davis, and the office work under the supervision of Designing Engineer Leonard B. Howe.

In addition to the work in progress at the date of the last report, plans and specifications were prepared for new construction work and contracts let as follows:

Columbia Station, Overpass to Crescent Avenue, Section One.
Geneva Avenue Bridge, Section Two.
Paving and fences at the Enclosed Area, Section Two.
Superstructure, Ashmont Station, Section Four.
Plumbing, Ashmont Station.
Granolithic Platforms, Ashmont Station.
Hand Rails, Ashmont Station.
Iron Fences, Ashmont.
Wire Fences, Ashmont and Codman Street Yard.
Entrance and Exit Building to Ashmont Station, Peabody Square.
Excavation and Grading at Parking Area, Ashmont Station.
Concrete Wall and Roadway at Parking Area, Ashmont Station.
Shelter at Parking Area, Ashmont Station.

Plastering in Passageways, Ashmont Station.
Beale Street Sub-passageway, Section Four.
Signal Tower, Section Four.
Yardmen's Building, Codman Street Yard.
Water Pipe, Hydrants, etc., Codman Street Yard.
Bituminous Macadam Roadway, Codman Street Yard.
General contract for Section 5A, including grading, filling, underpass, retaining walls, Crest Avenue Bridge, Neponset River Bridge, etc.
Reconstruction, Metropolitan Sewer, Section 5A.
Equipment, including lead covered cable, copper wire, signals, malleable iron castings, etc.

DORCHESTER RAPID TRANSIT. SECTION ONE.

COLUMBIA STATION OVERPASS.

Construction was started this fall on an additional entrance and exit at Columbia Station for the use of passengers living in the vicinity of Crescent Avenue. The contract for this work was awarded on November 8 to A. G. Tomasello & Son, Inc., and work was begun immediately thereafter.

The work consists of a twenty foot extension of the present station platform and canopy, with a wooden passageway eight feet wide extending at the same level still farther to the south for a distance of one hundred fifteen feet. This passageway leads to a covered iron stairway which runs up to a foot bridge, or overpass, crossing above the outbound track. From the westerly end of the overpass another iron stairway descends in a southerly direction to the ground level outside the present wire fence which encloses the rapid transit right of way. From this point a granolithic walk connects with Crescent Avenue.

An automatic passimeter and an exit turnstile will be placed on the newly extended station platform. A six foot woven wire fence will be built on each side of the wooden passageway and high iron fences will be built on the sides of the iron stairways and overpass. The floors and roof are to be of reinforced concrete built on a structural steel framework. The roofing of the overpass and stairways is to be sheet copper while that of the station platform will be tar and gravel with a copper cornice.

Owing to the unsatisfactory soil conditions at this location it was necessary to carry the foundations down about fifteen feet to firm ground. This required careful bracing of the trenches as they were located between the two third-rail tracks over which rapid transit trains passed at from two to three

minute intervals. Close cooperation has, therefore, been necessary between the contractor and the Boston Elevated Railway in order to remove the excavated material, bring in construction materials and prevent serious accidents. Certain portions of the work have been done during the hours after midnight when no trains were running.

At the present time the foundations have been completed, the structural steel erected, the wooden platform built and some of the reinforced concrete placed.

SECTION TWO.

FIELDS CORNER ENCLOSED AREA AND HEATING PLANT.

This work was under way at the date of the last annual report and was carried through to completion by the contractor, the White Construction Company, during the winter and spring months.

The bus terminal building is about one hundred thirty feet by one hundred eighty-five feet and can house fifty-seven buses. It is built of brick with structural steel roof trusses and purlins. The trusses rest on steel columns embedded in the walls. The entire floor area is unobstructed by columns. The building is equipped with a sprinkler system and an oil and gasolene supply system.

The roof is made of precast concrete tile blocks over which is placed, except on the sloping parts, tar and gravel roofing. There are four large sky-lights, with wire glass, each fifteen and one-half feet by fifty-two feet, each containing three large revolving ventilators. The floor is of concrete laid off in sections and pitched so that the water will run into drains, each of which is connected with an arrester to catch the sand and gasoline and to prevent any from entering the sewer. There are four large entrance-exit doors for the buses. The entrance door from the busway is an electrically operated sliding door, twenty feet in width. The exit door to the busway is fifteen feet in width and is hand operated and has a six fold swinging door, three folds turning in each direction. Two large doors in the north side of the building open directly to the yard used for storing buses temporarily in the day time. This yard area is sufficient for an addition to the building to increase its capacity in the future to one hundred thirteen buses. The repair pit section of the building consists of a pit four and one-half feet below the level of the main

floor and supported on steel beams over the pit. These pits enable work to be done on the cars without jacking them up. The pit floor is ventilated by two horizontal ducts at the rear of the pit. In one of the ducts is provided connections which may be attached to the exhaust of the buses and the waste gases drawn away by suction. The other duct has openings through which air at the bottom of the pit is drawn away. There is also a battery charging room and a bus cleaners room in the pit section and a traveling hoist to facilitate handling equipment of the buses.

The office section is three floors in height and is twenty-nine feet by forty-one feet. In the basement of this section are rooms for oil tanks, tire repair parts, air compressor and gas heater. On the first floor are oil pumps, toilets, a foreman's office and a stockroom. On the second floor is the general storeroom, a room for garagemen, toilets and shower baths. Outside of the building is a gasoline filling station of the island type. The capacity of each of the two gasoline storage tanks is two thousand gallons.

The heating plant which supplies heat to the bus terminal and Fields Corner Station is a brick building about thirty-three feet by sixty-three feet located on Faulkner Street. The steam boiler is seventy-eight inches in diameter, about seventeen and one-half feet long and contains one hundred forty-four three-inch tubes. The building contains a pocket for coal, has an automatic coal handling system and an ash conveyer. There is space for an additional boiler. The smoke stack is steel of the self-supporting type fifty inches in diameter and one hundred feet high. The boilers and piping were tested satisfactorily and a certificate of completion was given on June 1.

A separate contract was advertised for fencing and paving the enclosed area and the contract was awarded to J. A. Singarella, the lowest of six bidders. The work was finished September 26.

The fence is a six-foot woven wire fence on top of a concrete curbing one foot high.

The paving for the roadway is of reinforced concrete eight inches thick. The roadway is over sixty feet in width and is about five hundred fifty feet long, connecting through to the entrance of the busway to Fields Corner Station.

The space in the enclosed area east of the garage that is to

be used for the storage of buses during the day time and also the area south of the concrete roadway between the roadway and the old Boston Elevated Railway car yard are both surfaced with cinders one foot in thickness laid on a gravel base and rolled smooth and hard with a five ton roller.

GENEVA AVENUE BRIDGE EXTENSION.

The easterly abutment of the old Geneva Avenue Bridge and the embankment just beyond obstructed the view of motormen on cars descending the northerly incline of the Fields Corner Station. This caused a slowing up of traffic to such an extent that it necessitated the removal of the abutment and also about fifty feet of the embankment in order to give a clear view and thus insure safe and satisfactory operating conditions. It was necessary to substitute a steel cross bent with columns in place of the old granite abutment. This bent was designed to support the east end of the old bridge and the west end of the new. The east end of the new bridge span was to rest on a new concrete abutment to be built at that point.

This work under ordinary conditions would have presented no serious difficulties, but located as it was between a busy trolley car incline on each side and Geneva Avenue with its tracks and auto traffic on the end, the space in which work could be carried on was very limited. In addition to this it was necessary to carry the two third-rail tracks located above, on which rapid transit trains were operating, while the abutment and embankment were removed beneath them and the new steel and concrete bridge substituted.

Plans were prepared and a method of operation worked out which was later carried through with practically no change. The general contractor for the work was A. G. Tomasello & Son, Inc. As this part of the line was in operation it was necessary, however, that all work pertaining to the tracks or the signal and power conduits be done by the railway company and the structural steel work on both the old and new bridge by the Department. The contract stated the order in which the work was to be carried on and specified in detail the divisions of the work to be performed by the general contractor, the Boston Elevated Railway and the Transit Department. It also provided for the closest cooperation on the part of all engaged to prevent accidents and keep the railway traffic moving. The method adopted was as follows:

The ballast under the third rail rapid transit tracks was removed and the tracks supported on heavy wooden stringers and steel beams, the steel beams being used at the abutments.

Excavation for the new easterly abutment was then carried down, the trench being sheeted with two inch poling boards. The rangers were six inches by eight inches and were braced by yellow pine braces of the same size.

The east end of the old Geneva Avenue Bridge was supported on temporary timber shoring built upon a heavy timber floor which was laid upon the easterly sidewalk. The timber floor was made up of two layers of twelve inch by twelve inch yellow pine timbers and the shoring consisted of eight bents made up of twelve inch by twelve inch timbers securely bolted together with three-quarter inch bolts. Steel plates and beams were placed on top of the bents and special steel wedges were driven in between the plates and the bottom of the bridge girders until the load of the bridge was taken up on the timber shoring. During the progress of the work levels were taken daily to note any slight settlement that might take place and permit the necessary wedging up to be done promptly.

Plate I is a view of this timber shoring and shows the old granite abutment that was later removed.

The signal cables in the embankment were removed and the conduits broken out. The power cables in this location were also temporarily relocated and the conduits removed.

The forms for the new easterly abutment and wing wall were then placed, reinforcing rods set and the concrete walls carried up in three lifts, rebracing the trench after each pouring of the concrete.

Three vertical slots were cut in the old granite abutment to permit building concrete foundations for the three steel columns. These columns and steel cross bents were erected as soon as the concrete foundations had set sufficiently and the necessary alterations had been made to the ends of the old bridge girders.

Enough earth was removed from the top of the old embankment between the new abutment and the steel cross bent to permit the new bridge girders to be placed and allow for the cross beams and wooden forms for the reinforced concrete floor, the tracks being reposted on blocking as the earth was removed.

The three girders for the new bridge, each about forty-eight feet in length and the heaviest weighing about thirteen

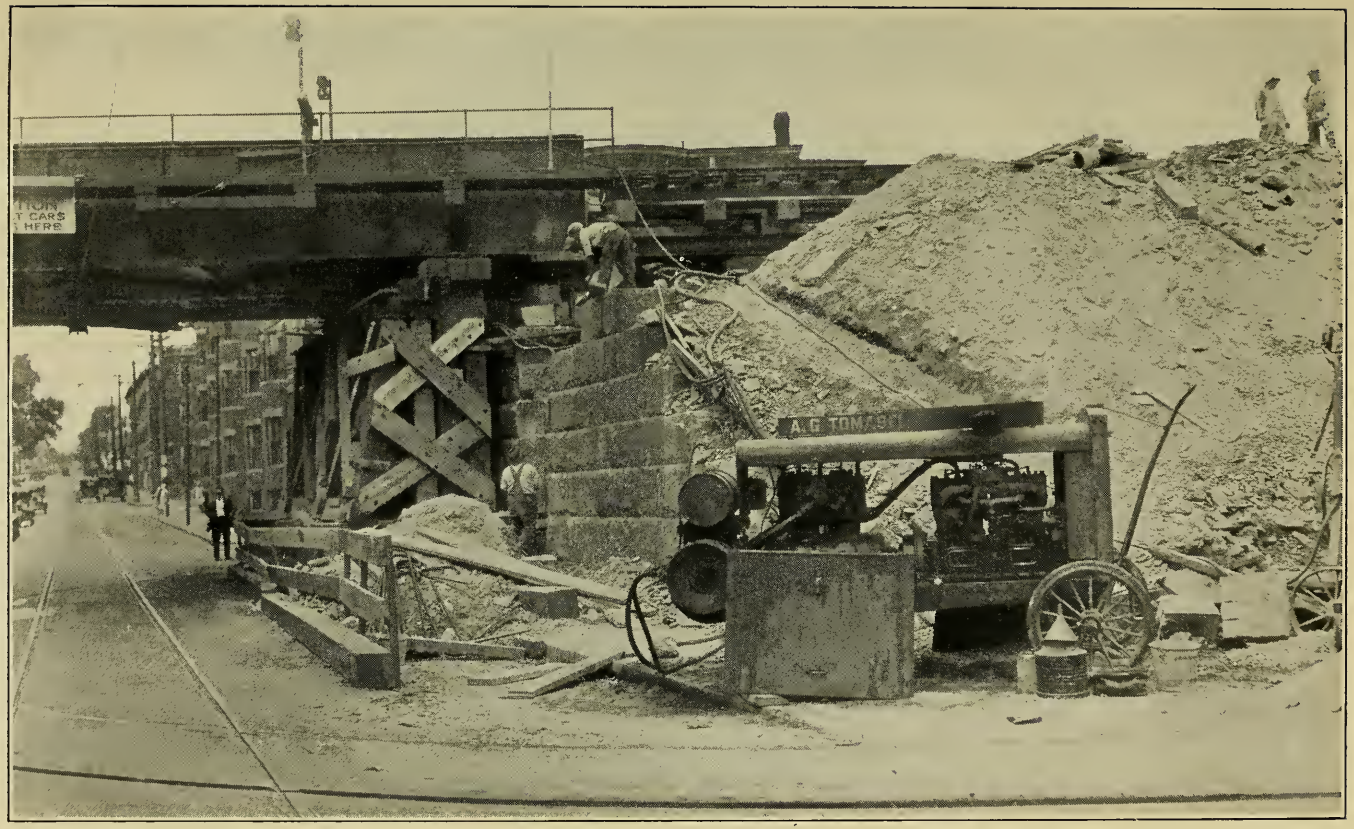

PLATE I.—TIMBER SHORING SUPPORTING GENEVA AVENUE BRIDGE DURING REMOVAL OF GRANITE ABUTMENT.

PLATE II.—GENEVA AVENUE BRIDGE, SHOWING NEW STEEL COLUMNS AND BRIDGE SPAN, REPLACING OLD ABUTMENT AND EARTH EMBANKMENT.

tons, were brought over the road on trucks from the Transit Department's steel shop and were swung into place after midnight by a Boston Elevated Railway derrick car. The floor beams were also erected and after the riveting was completed the temporary stringers carrying the tracks were supported on concrete blocks placed on the top flanges of the new floor beams.

The forms for the floor were then built, reinforcing placed and the concrete floor poured in sections, most of this work being done after midnight when trains had ceased running.

The new signal and power ducts were then laid and concreted, after which the cables were pulled through.

As soon as the concrete floor was set the temporary stringers were removed and crushed stone ballast placed beneath the ties and properly tamped. At no time during the replacing of the embankment by the new bridge were the tracks moved from their position or was train operation interfered with.

The earth core beneath the new bridge, which had been left between the new abutment and the steel cross bent, was then removed with a steam shovel.

The remainder of the old granite abutment was removed as was also the old northerly concrete retaining wall. The necessary grading was done and a new catch-basin built in connection with the drainage. The woven wire fence and northerly gate were relocated. The timber shoring was then removed from under the easterly end of the old bridge, the load of the bridge having been transferred from the old granite abutment to the new steel cross bent without causing any settlement to the bridge.

Plate II shows the old bridge over Geneva Avenue with the new bridge on the right.

SECTION THREE.

This section of the Dorchester Rapid Transit was well along toward completion at the beginning of the year. The portion from Geneva Avenue through Shawmut Station was finished first, as the possibility of extending the third rail service to this point from Fields Corner was then being considered. It was later decided, however, to open up Shawmut Station in conjunction with the opening up of the Ashmont Station beyond. Meanwhile, the work at this point was completed a few months ahead of the latter station.

The White Construction Company finished the Shawmut entrance and exit building on January 11.

The installation of the piping and plumbing in this station was completed by the Downey Company on January 19.

The plastering of the walls and ceiling of the station proper was completed by the George Craffey Company on January 11.

The contract for the granolithic platforms was let to A. G. Tomasello & Son, Inc., and this work was finished on January 21.

The stairway hand rails were installed under a contract with the J. A. Glass Company, and the work was finished on January 27.

The conduits and cinder concrete walk in the covered section to the south of Shawmut Station were built by C. M. Callahan, Inc. The installation of the tracks and signal and power cables followed as fast as this work was completed. Station equipment, such as signs, booths, passimeters, etc., was also put in by the Boston Elevated Railway under their contract with the Department for the equipment work.

All sidewalks and gutters adjacent to the five streets which cross over Section Three, and which were disturbed by the excavation for the covered section at these points, were relaid after allowing several months for the refilled ground to settle permanently. The work at Park Street was done by A. G. Tomasello & Son, Inc. The work at Melville Avenue, Mather Street, Centre Street and Welles Avenue was done by J. A. Singarella. At all these street crossings, and along the walks leading to the Shawmut Station, iron pipe rail fences were installed by the Department's ironworkers.

Plate III shows the entrance and exit building at Shawmut Station, which is located on the roof of the covered section, the station proper being directly below.

Plate IV shows the interior of the Shawmut Station at the platform level.

SECTION FOUR.

Construction work on this section, which includes the Ashmont Station and the Codman Street Yard, was in progress at the date of the last annual report.

The Ashmont Station is a transfer station where passengers may change from one type of service to another within the

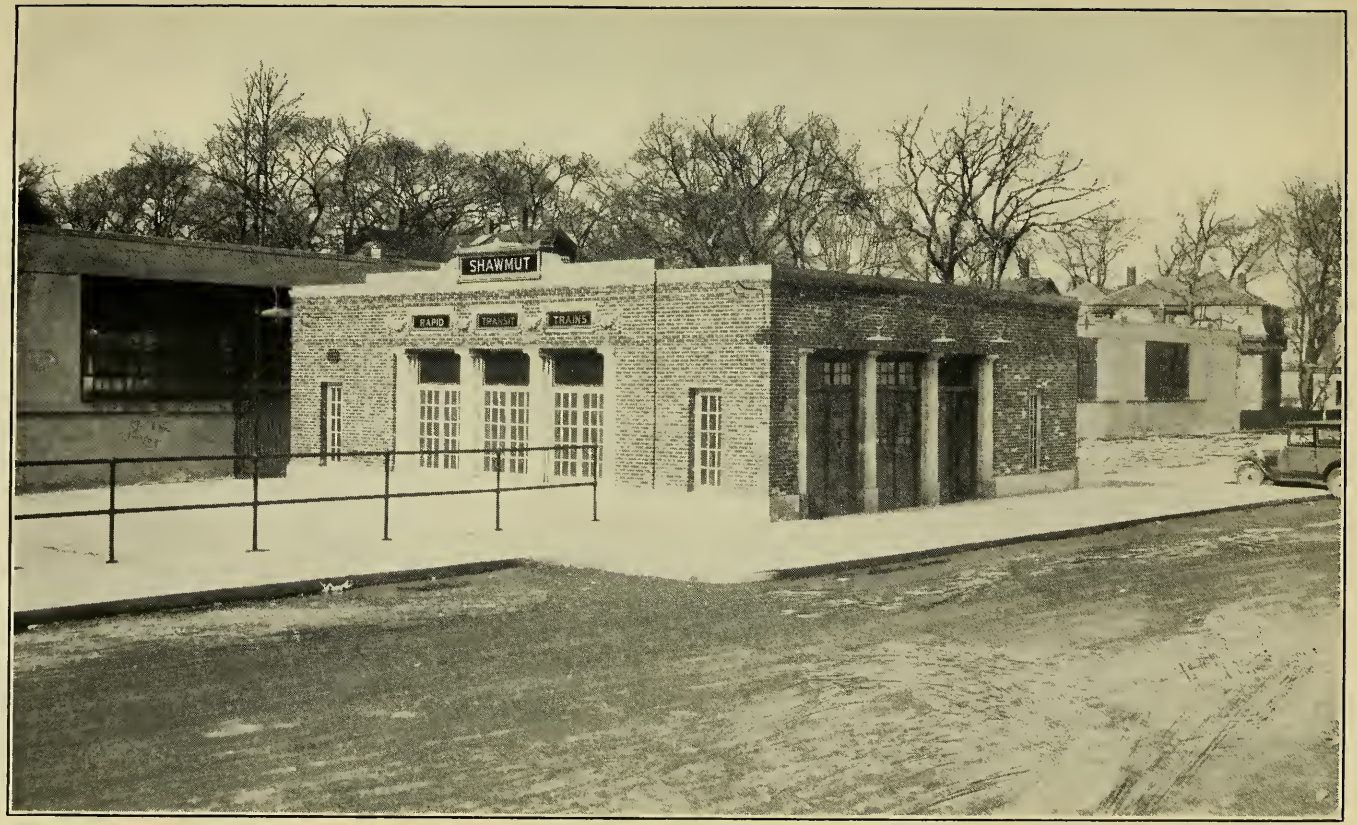

PLATE III.—ENTRANCE AND EXIT BUILDING, SHAWMUT STATION.

PLATE IV.—SHAWMUT STATION, INTERIOR VIEW AT TRAIN PLATFORM LEVEL.

PLATE V.—BUSWAY AND PLATFORM, ASHMONT STATION.

station limits. Provision is made for third rail trains, high speed trolleys, street cars and buses.

The platforms for the trains and all trolley cars are on the same level. The train platforms and the inbound trolley platform are three hundred feet long with provision for future extension of the train platforms to four hundred thirty-five feet. The outbound trolley car platforms are two hundred fifty feet long.

In the main part of the station there are two third rail tracks and four trolley car tracks. The trolley track on the east of the third rail tracks is for inbound cars and the three trolley tracks on the west are for outbound cars. The easterly platform is the loading platform for the rapid transit trains and is provided with change booths and passimeters.

The busway is on the west of the train shed with the floor at a higher level which permits bus passengers to transfer to and from trains and cars by means of an overhead passageway which crosses the tracks and from which there are six stairways down to the various platforms. The busway is a twenty-two foot concrete roadway with a seven foot sidewalk entering the station in an easterly direction from Dorchester Avenue near the southerly end of the station area. It then swings to the left passing through the station in a northerly direction, with the exit on Dorchester Avenue near the northerly end of the station. The width of the roadway where it passes through the station is twenty feet. The bus platform in the station is fourteen feet wide with a lobby near the center, in which are located change booths and passimeters. A fence at this point separates the platform into an unloading and loading platform, each of sufficient length for five buses to unload and for six to load. The passageway leading from the bus lobby to the platform stairways is used for both inbound and outbound bus passengers.

Plate V is an interior view of the busway and platform.

Provision is made for pedestrians to enter Ashmont Station from the north by way of an entrance-exit building at Peabody Square and from the south by the way of a walk from Radford Lane leading to the southerly end of the loading platform for the trains, also by the way of a walk at the side of the busway from Dorchester Avenue. The trolley cars enter the station from Dorchester Avenue to the southerly end, cross over the rapid transit tracks on a viaduct loop and unload at the plat-

form adjacent to the inbound rapid transit tracks. These cars then proceed directly to Dorchester Avenue or loop around over the covered section north of the station and enter again on any one of the three loading tracks mentioned above.

Plate VI is a plan showing the layout of the station together with the viaducts, busway and approaches.

Construction work under the general contract was being actively pushed at the close of the year by the contractor, the C. & R. Construction Company. The work was continued without interruption through to completion on June 12.

During the early months of the year, the reinforced concrete floor for the busway was built, and the steel work erected for the surface car viaducts, both at the north and south ends of the station. The reinforced concrete floors and encasement work on viaducts followed. Concrete retaining walls were built and signal and power conduit lines completed. The necessary grading was done at the stations and the yard, and also along the rapid transit and high speed trolley right of way.

Ashmont Station Buildings.

The work under the general contract had advanced far enough in January to permit the construction of the station entrance and exit building near Peabody Square, and bids for this work were called for. On February 6 a contract for this work was awarded to the Suffolk Construction Company, the lowest of nine bidders.

This building is in general character similar to other station entrance and exit buildings along the rapid transit line. The exterior walls are of tapestry brick with brown stone cappings. The interior of the walls is faced with white enamel brick. The roof is of steel and reinforced concrete construction with white plastered ceilings. The roofing is tar and gravel with copper flashing and down spouts. The floors are granolithic with a dark sanitary base course, about twelve inches high at the walls.

Granolithic walks lead to the building from Peabody Square and Dorchester Avenue, and an ornamental iron fence with brick posts runs along the property line. The layout of the forecourt and the design of this building as well as the station superstructure was made by William D. Austin, Consulting Architect for the Department. The contract for this work was completed on June 22.

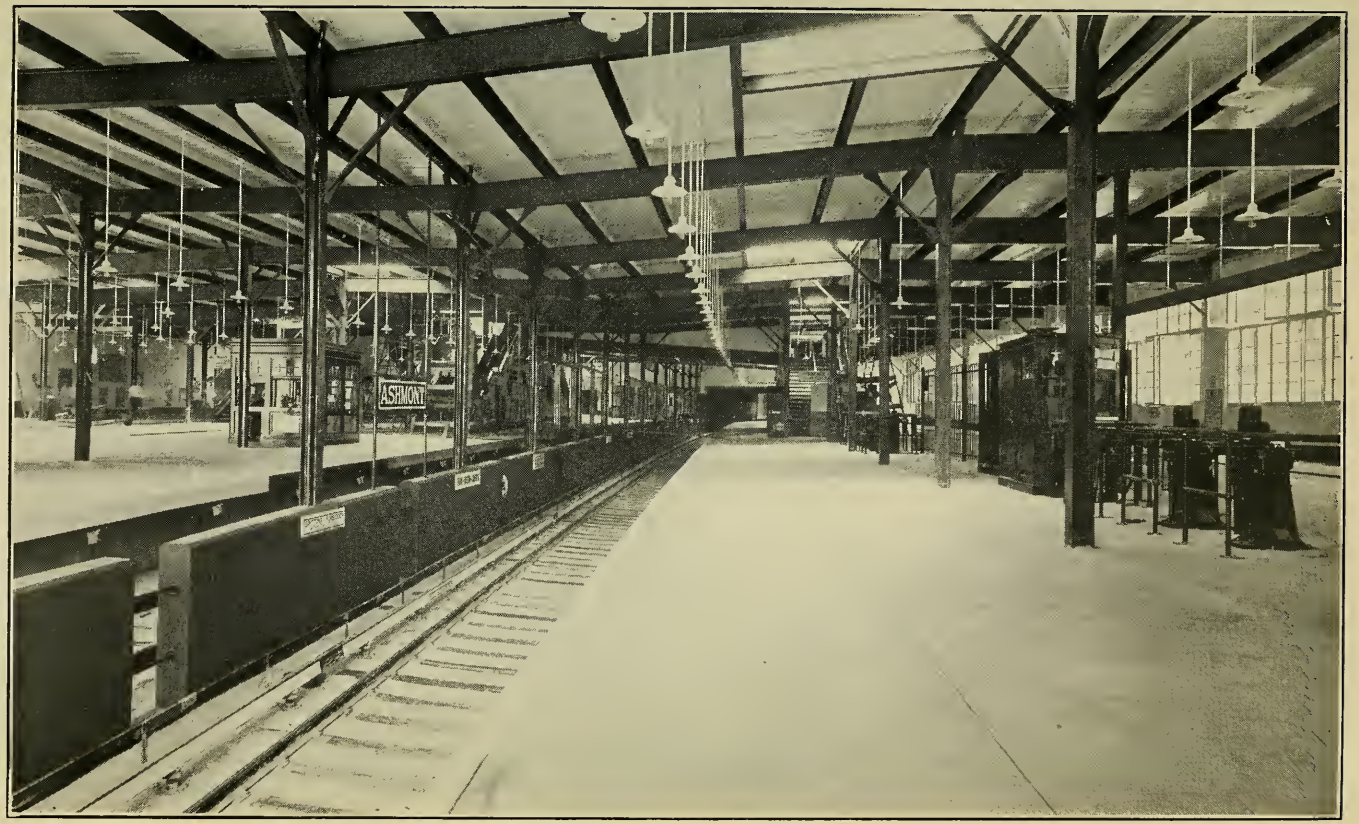

PLATE VII.—TRAIN AND SURFACE CAR PLATFORMS, ASHMONT STATION.

PLATE VIII.—GENERAL VIEW, ASHMONT STATION.

The passageways leading from this building to the main part of the station were finished with white cement plaster under a contract with A. V. Day and Company.

The superstructure for the main part of the Ashmont Station was built under a contract awarded on March 28 to the Matthew Cummings Company, the lowest of eleven bidders. The contract included the construction of the superstructure, which covered the two rapid transit tracks, the four trolley car tracks together with their respective platforms, and also the busway and busway platform. The overhead passageway from the bus platform lobby connecting with the station platforms was also included in the contract, as were the stairways, waiting rooms, toilet rooms, signal rooms, booths, etc.

The walls of the superstructure are of reinforced concrete. The roof is of two inch yellow pine tongued and grooved plank nailed to three by six inch nailing pieces which are bolted to the steel roof purlins. The roof is tar and gravel with copper flashing and down spouts. There are twenty-two skylights each about nine feet square.

The structural steel framework was fabricated and erected by the department ironworkers.

The windows in the busway and the east wall of the station are of the casement type. Those in the rest of the station and in the passageways have double hung sash.

The interior surfaces of the building are painted white, the steel work being of a mottled green.

Granolithic platforms and walks were built by the same contractor under another contract. The superstructure was finished on July 26, and the platforms on July 18.

The piping and plumbing fixtures were furnished under a contract with Pierce & Cox.

The hand rails for all stairways were furnished under a contract with Alphonsus Leo Walsh.

Plate VII shows the interior of Ashmont Station.

Plate VIII shows a general view of the Ashmont Terminal taken from Peabody Square. At the left can be seen the entrance and exit building, which is located over the covered section through which rapid transit trains pass. The passageways from this building run on each side of the rapid transit tracks in the covered section to the station platforms beyond. In the center of this picture can be seen tracks for the surface cars, which enter this station down a slight incline. To the

right is the superstructure of busway, and on the extreme right may be seen the auto parking space. From the busway the overhead passageway is shown connecting with train and car platforms in the station.

The Ashmont Sub-Station on Beale Street located within the limits of the terminal, which was started last year by the White Construction Company, was completed on April 26.

The equipment for this station is similar to that in the Harrison Square Sub-Station, which was described in detail in the 1926 report. Rotary converters, transformers, switchboards, etc. were furnished under a contract with the General Electric Company, and were installed by the Boston Elevated Railway Company under the equipment contract.

Directly south of the Ashmont Station, at a point where the trolley car viaduct crosses above the rapid transit tracks, a signal tower was constructed. It was built of tapestry brick with reinforced concrete floors, and has a copper covered roof The contract for this building was awarded to the Banspar Construction Company on April 20, and the building was completed on May 25.

The signal tower controls the interlocking and signal system for trains to and from the main line and the yard. The switches are operated by compressed air which is automatically controlled electrically, while the signals are entirely electric. The compressed air is taken from air compressors located on the ground floor of the switch tower while the electric power operating all interlocking apparatus is taken from the main power supply.

A sub-passageway was built under the rapid transit right of way for the convenience of passengers and others going between Beale Street and Radford Lane. The passageway is about eleven feet wide with stairways at each end. It is built of reinforced concrete covered with a waterproofed fabric which in turn is protected with a concrete skin coating. The building of this passageway necessitated the relocation of a six inch water main, also the reconstruction of a twelve inch vitrified pipe sewer. The contract was awarded to A. G. Tomasello & Son, Inc. The work was completed on May 19.

Plate IX is a view from Ashmont Station looking south toward the yard. The trolley car viaducts are shown crossing the rapid transit tracks, with the entrance to the Beale Street

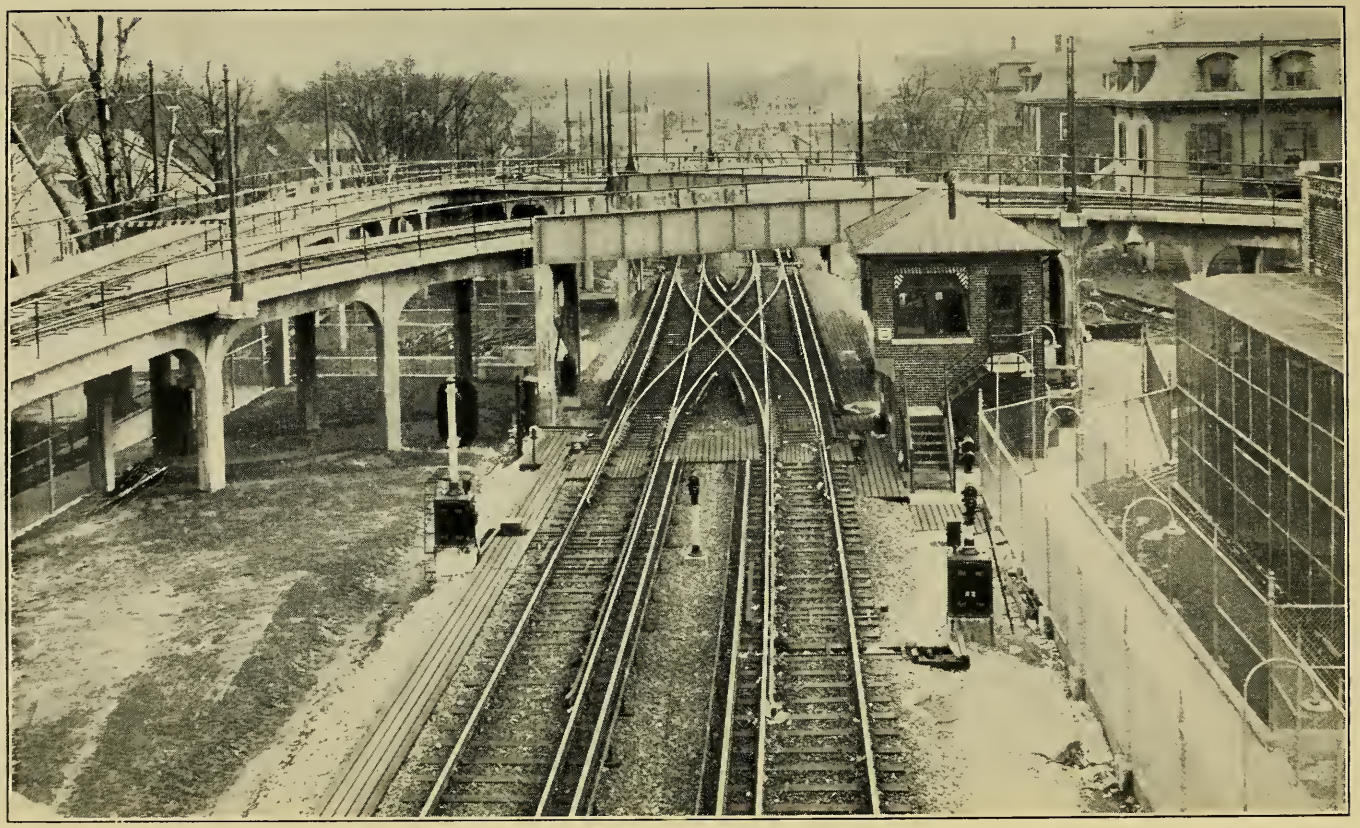

PLATE IX.—VIEW LOOKING SOUTH FROM ASHMONT STATION.

Passage beneath. The signal tower and a portion of the Sub-Station are shown on the right.

The area which is enclosed by the busway, the busway viaduct and Dorchester Avenue was reserved for a parking space for automobiles driven by those desirous of using the rapid transit facilities. Many of the details as to the ramps, stairways and other facilities had not been finally determined upon, but enough information was available to permit the rough grading to be done before the date set for opening the rapid transit line to Ashmont.

A brick building located at 1946 Dorchester Avenue still remained on this property and was being used as a field office by the department engineers. New quarters for the engineers were obtained in a vacant store on the other side of Dorchester Avenue, and the brick building was torn down by the Fellsway Wrecking Corporation.

The contract for excavation and grading was awarded to Cronin & Driscoll. The surplus material was used for filling farther out along the line at Shawmut Junction. The work was completed on August 11.

CODMAN STREET YARD.

The yard is about nine hundred feet long and covers an area of about eleven and one-half acres. A loop track runs around the yard, the interior space being partially filled with storage tracks allowing room for additional tracks in the future. There are seven storage tracks, one having an inspection pit. There is storage space for sixty cars on the storage tracks and thirty cars on the loop track with room for expansion to accommodate a total of two hundred six cars and also allow room for a repair shop.

The rapid transit right of way on Section Four south of Ashmont Station and including Codman Street Yard is enclosed by a six foot woven wire fence on a concrete curb similar to the fences enclosing the right of way on the other sections of the line. The contract for this fence, which is over seven thousand feet in length, was let to the Banspar Construction Company. It was completed on July 18.

A building for use of the yardmen and for the storage of materials and tools for inspecting was built in the northeast corner of the yard. The building is twenty-six by sixty-five

feet and one story in height. The exterior walls are of tapestry brick with artificial stone capping, and the interior is lined with face brick. The floors are of granolithic. A chimney thirty-four feet high was built in connection with the steam heating plant. The building is equipped with lockers, toilets, showers, etc. It was built by the Banspar Construction Company, and was finished on August 25.

A roadway was constructed by A. G. Tomasello & Son, Inc. running from the yardmen's building down an incline parallel to the surface car track to Codman Street. It is twelve feet wide and has a bituminous macadam surface.

Fire protection for the yard was provided by a six inch water pipe led in from Codman Street to a six inch pipe running east and west between the storage tracks. Three fire hydrants are located at convenient points. This work was done under a contract with C. M. Callahan, Inc.

Plate X is a plan showing general layout of yard and approach.

The installation of equipment on Section Four followed the construction work very closely in order that the line might be opened as planned on the first of September.

Opening New Sections of Line to Ashmont.

With the completion of Sections Three and Four, the third rail service was extended from Fields Corner through Shawmut to Ashmont.

The official inspection was on August 31, when His Honor Mayor Malcolm E. Nichols, together with the representatives of the state and city government, rode over the line and inspected the work. The following morning the new line was put in operation. Trains are running on a two minute headway in the morning and evening and a three minute headway the rest of the day. From Harvard Square, Cambridge, through Boston proper to Ashmont the distance is about nine miles. The running time is twenty-five minutes.

Parking Area.

The detailed plans for the use of this area were determined upon shortly after the opening of the line to Ashmont. A concrete ramp on a ten per cent grade and twenty feet in width was built running down from a landing space on the easterly side of and parallel to Dorchester Avenue into the parking area. Additional concrete retaining walls were also constructed.

PLATE XI.—AUTO PARKING AREA, ASHMONT STATION.

PLATE XII.—AERIAL VIEW, CODMAN STREET YARD AND ASHMONT STATION.

Both the ramp for the cars and the walls were built under contract with Alphonsus L. Walsh, and finished on October 11.

The entire area has a capacity for the storage of about two hundred automobiles at one time. It is enclosed with a wrought iron fence four feet in height above the concrete curb. This fence, together with other sections of fence and gates for the station, was built under contract with W. A. Snow Iron Works, Inc., and completed on November 14.

A stairway from the parking area to the busway platform is provided for autoists wishing to enter the station. The exit from the station to the parking area is on the lower level where turnstiles are placed under the busway.

A contract was awarded to the Norris Company for building a shelter in connection with the parking area. The building was sixteen by twenty feet in area, and was built of reinforced concrete with a wooden roof covered with a tar and gravel roofing and copper flashing. This work was completed on November 15, and the parking area opened for use on November 19.

Plate XI is a view showing the parking area looking northerly from the busway.

Plate XII is a view from the air showing Codman Street Yard and Ashmont Terminal.

SECTION FIVE.

This section as originally planned extended from a point near Shawmut Junction through Milton to Mattapan. It provided for the construction of two high speed trolley tracks as far as Milton Station. Beyond that point a single track was provided to Mattapan, a distance of a mile and a half.

At the request of the Boston Elevated Railway, several new studies were prepared showing a double track layout for this latter distance with an additional station near Valley Road in the town of Milton, and also a new plan for the station and yard at Mattapan. While this matter was under consideration it was decided to start construction work on that part of Section Five on which no change of plan was contemplated. This portion was therefore designated Section Five A.

SECTION FIVE A.

This section extends from a point at the Cedar Grove Cemetery Bridge near Shawmut Junction to the Milton Station and is about two-thirds of a mile in length.

The Act authorizing the construction of the Dorchester Rapid Transit, including the acquisition of the Shawmut Branch, provided that the railroad should have suitable freight connections from the junction of their existing track from Neponset to Shawmut Junction with the Shawmut Branch to the sidings then in use on the Branch between Shawmut Junction and Central Avenue. In order, therefore, to provide for the freight service on the westerly side of the Shawmut Branch railroad tracks between the Junction and Milton, and at the same time avoid crossing the rapid transit line at grade, a freight track underpass was designed to be located at the Junction. This underpass is similar to the one built by the department and now used by the New Haven Railroad at its approach to the Freeport Street freight yard on Section One.

The location of the underpass and the earth embankment of the approach incline was directly over an old metropolitan sewer. This sewer also ran under the proposed relocation of one of the railroad freight tracks. The sewer was egg shaped three by four feet and was made of brick with some concrete protection at the sides. Owing to the increased load to be placed upon it from the underpass and the freight track, it was necessary to rebuild this sewer for a length of about sixteen hundred feet. An agreement was made with the Metropolitan District Commission for the reconstruction of the sewer by this department, and a contract for the work was awarded to the C. & R. Construction Company, the lowest of twelve bidders.

A new reinforced concrete sewer of similar dimensions to the old was built adjacent to the old sewer, after which the flow was turned into it, and the old sewer then demolished and filled in. The new sewer for about one half its length was built over marshy ground and required a wooden pile foundation. The remaining half was built on firm ground, consisting of ledge and large boulders, that required blasting for their removal. The work was started on April 17, and was completed on July 19.

General Contract for Section Five A.

The work on this section consists of the construction of a road bed, drainage systems, concrete retaining wall, foundations, bridges, removal of structures, repaving, regrading, etc. The construction involves the relocation of the tracks of the New Haven Railroad, and therefore certain portions of the work

under the contract can be carried on only at certain times, as fully outlined in the specifications. The contract was let on September 4 to M. F. Gaddis, the lowest of ten bidders, and work was immediately started on the freight track underpass mentioned above.

SHAWMUT UNDERPASS.

Construction work was started at the northerly end of Section Five A. Excavation was begun for the retaining walls along the sides of the right of way through the Cedar Grove Cemetery and also for the foundations and walls of the Shawmut Junction Underpass. The construction of the concrete walls and the underpass followed and the work was finished during the fall. The underpass has reinforced concrete walls and invert with reinforced concrete roof slabs supported by steel beams encased in concrete. The southerly retaining wall of the underpass is supported on a wooden pile foundation, the main portion of the underpass being on firm ground. The filling for the approach embankments on both sides has also been placed.

The easterly track of the New Haven Railroad has been relocated on filling previously placed in the marshy ground on the easterly side of the former right of way. This track is now used for passenger and freight service and was relocated for a length of about twelve hundred feet.

CREST AVENUE BRIDGE.

The Crest Avenue Bridge, over the Shawmut Branch Railroad was an old wooden structure spanning only one track and supported on abutments and built of open jointed rubble masonry. The clearance above rails was less than that now allowed for new bridges and the reconstruction, therefore, necessitated raising the grade of the street. The new rapid transit road bed is to be built wide enough for two high speed trolley tracks which, together with the two freight tracks required to serve the industries on both sides of the new rapid transit line, makes necessary a new bridge spanning four tracks. The old bridge at this point was the only means of access to the community to the south of the railroad which made it necessary to keep this bridge open for traffic at all times during the period of reconstruction. This was accomplished by slightly altering the westerly half and then removing the east-

erly half of the old bridge, thus keeping one-half of the old bridge in use while building the easterly half of the new bridge. After the new bridge was completed the traffic was transferred onto it and the remaining half of the old bridge was then removed and the new bridge completed. Owing to the increased length and clearance it was necessary to increase the grade of the southerly approach. The filling for this new embankment was obtained from the excavation made for the new retaining walls which stretched to the east of the bridge as far as Butler Street. Provision on the bridge for pipes and duct lines was made in chambers under the concrete slabs of the new sidewalks. The work required the relocation of a six inch water pipe, a six inch gas pipe and telephone and electric cables. The new abutments and adjacent retaining walls are of reinforced concrete. The floor slab of the bridge is reinforced concrete supported on steel beams encased in concrete.

Plate XIII shows the easterly half of the bridge under construction. The rubble masonry abutments of the old one track bridge may be seen in the center of the picture.

New Bridges Over Neponset River.

The present bridge over the Neponset River, just east of the Milton railroad station, is a single track plate girder bridge spanning about ninety-three and one-half feet center to center of bearing on abutments. Additional bridges are required to carry the two rapid transit high speed trolley tracks also another railroad freight track, thus providing bridges for four tracks in all. In building the new bridges it will be necessary to move the present bridge up-stream about ten feet. This can be done after the new railroad bridge on the south is finished and must necessarily be done before the rapid transit bridge can be built as it occupies part of the spacing required for this latter bridge.

Approval of the plans for these new bridges was secured from the Massachusetts Department of Public Works and also the United States War Department, the river being navigable at this point.

Work on the new abutments for the bridges was started shortly after the contract was awarded. It was planned to build heavy concrete abutments of the gravity type, carried down to solid ledge. The specifications called for suitable coffer-dams to permit pumping out the water and examining

PLATE XIII.—CONSTRUCTION OF EASTERLY HALF OF CREST AVENUE BRIDGE.

PLATE XIV.—BUILDING SAND BAG COFFER-DAM FOR CONSTRUCTION OF EASTERLY ABUTMENT, NEPONSET RIVER BRIDGE.

the ledge. The contractor decided on sand bag coffer-dams and the construction of one on the easterly bank was immediately started.

Plate XIV shows this sand bag coffer-dam under construction.

To date part of the concrete abutments and wing wall has been completed and work is being pushed on the remainder.

Preparations for the next Section have been made as far as it is possible to do so while questions concerning the general layout are still under consideration. Land takings have been made in Milton for the proposed new station at Valley Road and for the relocation of Eliot Street and the rebuilding of the Adams Street Bridge. Buildings on both corners of Eliot and High Streets were torn down by William H. McCormick and the building at the corner of Eliot and Adams Street was torn down by the Bay State Wrecking Company. It is expected that construction work on this Section can be started in the early spring.

TREMONT STREET SUBWAY.

RELOCATION OF VENTILATION SHAFT IN ADAMS SQUARE.

The removal of the statue of Samuel Adams from Adams Square to Dock Square opposite Faneuil Hall made it possible to move the subway ventilation opening to the position formerly occupied by the statue and by so doing greatly facilitate vehicular traffic through the square.

The roof of the ventilation chamber upon which the statue formerly rested was of reinforced concrete forty-two inches thick. This was drilled and broken out and the old ventilation grating relocated in its place. The old opening was closed by building a heavy reinforced concrete roof upon which grouted granite block pavement was laid on a two inch sand bed. The work was done during the fall by employees of the Department.

CYPHER STREET YARD, SOUTH BOSTON.

The yard and shops have been under the direction of Assistant Engineer Samuel G. Lyman. Construction supplies and materials have been handled here as in previous years. The necessary handling of cement for testing and also certain other work above referred to has been done by laborers from the yard.

The structural steel shop has fabricated the steel work

used on the various sections and certain parts of the structures have been erected by the ironworkers from the shop.

Plate XV shows one of the girders fabricated in the shop for the Neponset River Bridge on Section Five A. The girder is about nine feet deep and ninety-six feet long and weighs forty-five tons.

Testing Materials.

Inspection of materials and workmanship on all operations in connection with the construction on various sections has been carried on throughout the year by the Department inspectors. Mill and laboratory tests of materials has been made as in former years.

Reinforcing rods, structural steel rails and castings have been tested by the firm of Conrad and Buzby.

Physical tests of the samples taken from every load of cement have been made by Mr. Charles N. Ryan, Cement Tester, Public Works Department.

Chemical and physical tests of waterproofing and asphalt have been made by Mr. Hiram Y. Waterhouse, Chemist, Public Works Department.

Engineering Force.

There has been some reduction in the size of the engineering force during the year. The names of those members employed for more than one month are given in Appendix I.

Respectfully submitted,

Ernest R. Springer,

Chief Engineer.

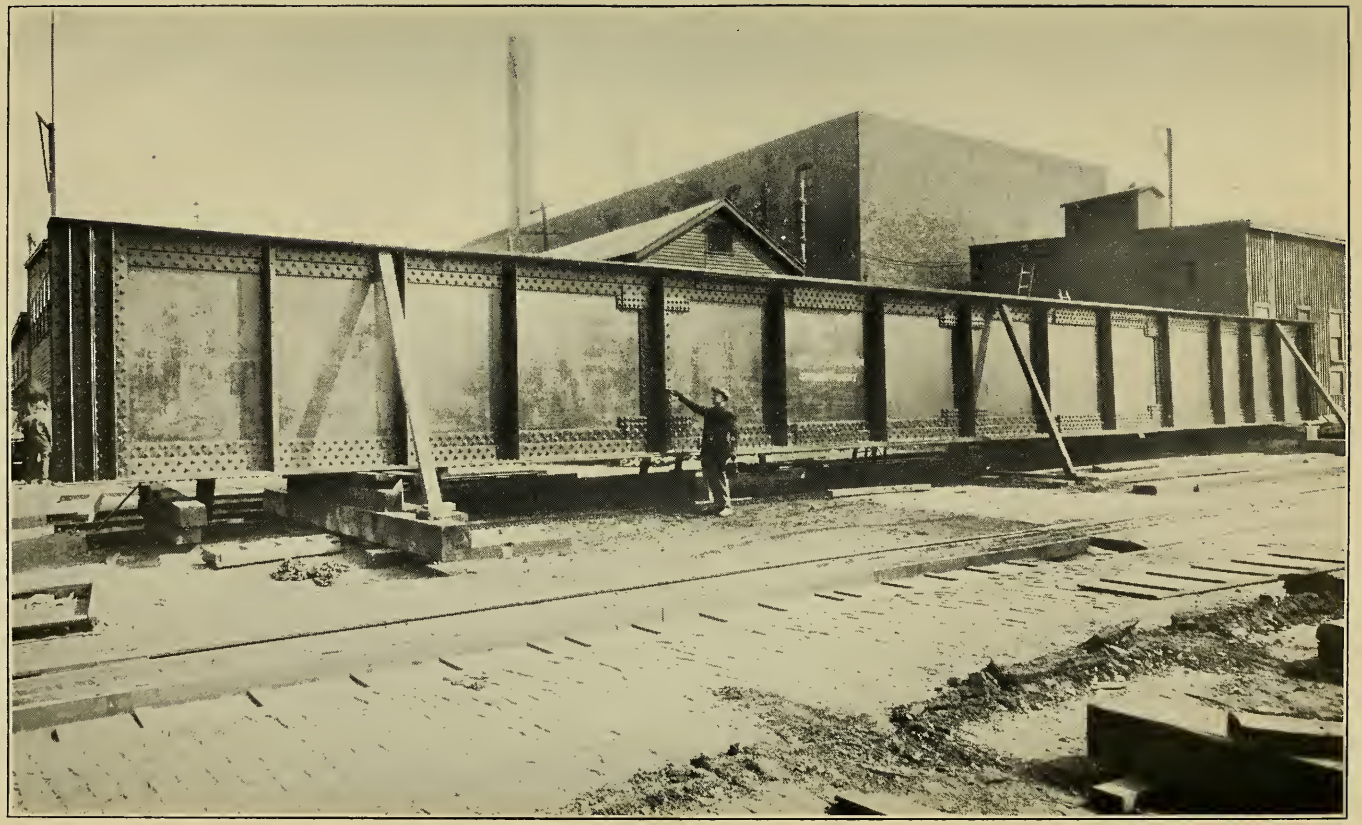

PLATE XV.—PLATE GIRDER, NEPONSET RIVER BRIDGE.

APPENDIX I.

The names of those who have been employed in the Engineering Division for more than one month during the period covered by this report are given below, together with an indication of the principal work upon which they have been engaged.

WILBUR W. DAVIS, *Assistant Chief Engineer.* In general charge of construction.

LEONARD B. HOWE, *Designing Engineer.* In general charge of designing.

Assistant Engineers.

THOMAS N. ASHTON. Designs and details for structural steel, Dorchester Rapid Transit.

JOHN A. BERRIGAN. Track alignment calculations, land takings, detail plans, etc., Dorchester Rapid Transit.

THOMAS A. BERRIGAN. Plans and designs for reinforced concrete and steelwork, Dorchester Rapid Transit.

RALPH F. BOUDREAU. Lines and grades, Sections 2 and 3; Surveys, Sections 5B and 5C, Dorchester Rapid Transit.

JAMES D. BURNS. Plans and designs for steelwork, Dorchester Rapid Transit.

HARRY T. CARROLL. Track alignment calculations, land takings, detail plans, etc., Dorchester Rapid Transit.

STANLEY J. CLIFFORD. Track alignment calculations and detail plans, Dorchester Rapid Transit.

JOHN J. CUMMINGS. Track alignment calculations and detail plans, Dorchester Rapid Transit.

LESTER S. DANIELS. Supervision of lines, grades and estimates, Dorchester Rapid Transit.

JOSEPH P. DEVER. Studies, specifications and estimates for Dorchester Rapid Transit.

* HENRY L. DONOVAN. Taking plans and steel details for Dorchester Rapid Transit.

ROBERT B. FARWELL. Supervision of construction of Sections 4 and 5A, Dorchester Rapid Transit.

RALPH A. FISHER. Designs and details of structural steel, Dorchester Rapid Transit.

LOUIS J. HARRIGAN. Studies and detail plans for sewers for Dorchester Rapid Transit.

HERBERT D. HURLEY. Design and details for structural steel and reinforced concrete for Dorchester Rapid Transit.

JOHN M. KENNEY. Plans and details for Dorchester Rapid Transit.

WILLIAM W. LEWIS. Supervision of construction and conveyance plans, Section 1, Dorchester Rapid Transit.

BENJAMIN A. LOVELAND. Designs and details for structural steel and reinforced concrete structures, Dorchester Rapid Transit.

* Left the employ of the Transit Department.

SAMUEL C. LYMAN. In charge of stockyard and steel shop at Cypher Street.

ARTHUR V. LYNCH. Supervision of track alignment calculations, taking plans, designs and detail plans for Dorchester Rapid Transit.

HARRY H. LYNN. Plans and details, Dorchester Rapid Transit.

HARRY F. SAWTELLE. Supervision of designs and details for structural steel and reinforced concrete structures, Dorchester Rapid Transit.

HERBERT R. STEARNS. Supervision of track alignment calculations, taking plans, designs and detail plans for Dorchester Rapid Transit.

LEO S. STONE. Supervision of escalator alterations. Studies, estimates and specifications for construction, Dorchester Rapid Transit. Supervision of specifications and contracts for equipment, Dorchester Rapid Transit.

EDWARD SULESKY. Designs and details for structural steel and reinforced concrete structures for Dorchester Rapid Transit.

ARTHUR W. VOSE. Track alignment calculations, taking plans, detail plans, etc., Dorchester Rapid Transit.

DAVID B. WEDEN. Designs and details for structural steel and reinforced concrete structures for Dorchester Rapid Transit.

Assistant Engineer and Inspector.

FREDERICK C. H. EICHORN. Supervision of construction of Section 2, Surveys, Sections 5B and 5C, Dorchester Rapid Transit.

Draftsmen.

EDMUND A. BARRETT. Lines and grades, Sections 1 and 5A, Surveys, Sections 5B and 5C, Dorchester Rapid Transit.

BORIS BERESTNEFF. Plans and details for steelwork, Dorchester Rapid Transit.

ROBERT D. GARDNER. Plans and details for steelwork, Dorchester Rapid Transit.

IRWIN J. HENNESSEY. Plans and details for structures, Dorchester Rapid Transit.

JOHN F. HOWARD. Plans and details for Dorchester Rapid Transit.

RALPH A. PLUNKETT. Plans and details for Dorchester Rapid Transit.

KARL R. SAUNDERS. Plans and details for Dorchester Rapid Transit.

Transitmen.

ROBERT S. BOWES. Lines and grades, Sections 2 and 3, Surveys Sections 5B and 5C, Dorchester Rapid Transit.

PATRICK H. BOYLE. Lines and grades, Sections 1 and 4, Dorchester Rapid Transit.

THOMAS E. CARNEY. Lines and grades, Sections 4 and 5A, Dorchester Rapid Transit.

MICHAEL J. DRISCOLL. Lines and grades, Sections 2, 3 and 5A, Surveys Sections 5B and 5C, Dorchester Rapid Transit.

MICHAEL S. FOGARTY. Quantities for estimates, Sections 4 and 5A, Dorchester Rapid Transit.

GEORGE G. HYLAND. Lines and grades, Sections 4 and 5A, Dorchester Rapid Transit.

ALBERT I. MCDERMOTT. Plans and details for Dorchester Rapid Transit.

* JOSEPH J. O'BRIEN. Lines and grades, Sections 4 and 5A, Dorchester Rapid Transit.
* EDWARD G. A. POWERS. Lines and grades, Sections 2 and 4, Dorchester Rapid Transit.
* THOMAS E. RAFFERTY. Quantities for estimates, Sections 2, 3 and 4, Dorchester Rapid Transit.
FRANK A. RULL. Photography and blueprinting.
* JOHN J. RYAN. Lines and grades, Sections 4 and 5A, Dorchester Rapid Transit.
FREDERICK W. STILES. Care of plans, survey records, etc., general office work.
* FRANCIS D. SULLIVAN. Lines and grades, Section 1, Dorchester Rapid Transit.

Rodmen.

* WALTER H. BARRETT. Lines and grades, Sections 4 and 5A, Dorchester Rapid Transit.
* JOHN W. BURKE. Quantities for estimates, Section 4, Dorchester Rapid Transit.
* JOHN F. COUGHLIN. Lines and grades, Sections 2 and 3, Dorchester Rapid Transit.
* JOHN P. CROTTY, JR. Plans and tracings, Dorchester Rapid Transit.
* STEPHEN C. DESROCHE. Lines and grades, Sections 4 and 5A, Dorchester Rapid Transit.
LAWRENCE P. DONNELLY. Lines and grades, Sections 1, 2 and 5A, Dorchester Rapid Transit.
* JAMES J. FITZGERALD. Lines and grades, Sections 4 and 5A, Dorchester Rapid Transit.
* JOHN P. GLYNN. Lines and grades, Section 1, Dorchester Rapid Transit.
* JOSEPH F. HIGGINS. Lines and grades, Sections 2 and 3, Dorchester Rapid Transit.
* FREDERIC H. MARLEY. Lines and grades, Section 4, Dorchester Rapid Transit.
* WILLIAM MCLAUGHLIN. Lines and grades, Section 4, Dorchester Rapid Transit.
JAMES A. O'ROURKE. Lines and grades, Sections 4 and 5A, Dorchester Rapid Transit.
RAYMOND V. PAGE. Lines and grades, Sections 4 and 5A, Dorchester Rapid Transit.
* JOHN A. ROONEY. Lines and grades, Section 2, Dorchester Rapid Transit.
* HERBERT J. STONE. Lines and grades, Section 4, Dorchester Rapid Transit.
* LEO J. SULLIVAN. Lines and grades, Section 1, Dorchester Rapid Transit.

Inspectors and Others.

THOMAS H. ARMSTRONG. Inspection, Sections 2, 4 and 5A, Dorchester Rapid Transit.

---

* Left the employ of the Transit Department.

HAROLD M. BRADBURY. Inspection, Sections 2 and 3, Dorchester Rapid Transit.

JOHN DOHERTY. Inspection, Sections 2, 4 and 5A, Dorchester Rapid Transit.

JAMES F. DRISCOLL. Inspection, Sections 1 and 2, Dorchester Rapid Transit.

WILLIAM J. DRUMMOND. Inspection, Sections 4 and 5A, Dorchester Rapid Transit.

JOHN J. FALLON, JR. Inspection, Sections 4 and 5A, Dorchester Rapid Transit.

JOHN L. GEOGHEGAN. Inspection, Sections 4 and 5A, Dorchester Rapid Transit.

JOSEPH J. JOLLEY. Inspection, Sections 4 and 5A, Dorchester Rapid Transit.

AUSTIN E. JOYCE. Inspection and grouting, Sections 3 and 4, Dorchester Rapid Transit.

THOMAS H. KEENAN. Inspection, Section 4, Dorchester Rapid Transit.

STEPHEN V. McHALE. Inspection, Sections 4 and 5A, Dorchester Rapid Transit.

EMANUEL N. REINHALTER. Inspection, Dorchester Rapid Transit.

JOSEPH E. REINHALTER. Inspection, Sections 4 and 5A, Dorchester Rapid Transit.

GEORGE E. SULLIVAN. Construction Accounts.

JAMES E. WARD. Inspection, Sections 2, 4 and 5A, Dorchester Rapid Transit.

Clerical Force.

JOHN J. BRADLEY. Clerk — Timekeeping and daily reports, Sections 1, 2, 4 and 5A, Dorchester Rapid Transit.

KATHERINE I. DRISCOLL. Clerk and Stenographer.

JOHN J. FARREN. Construction Cost Accountant.

* PAUL J. KELLAHER. Clerk and Stenographer — Timekeeping and daily reports, Sections 2, 3 and 4, Dorchester Rapid Transit.

MARY E. McKERNAN. Clerk.

MABEL A. MURPHY. Stenographer.

THOMAS J. MULDOON. Clerk and Stenographer at Cypher Street Stockyard.

HENRY F. HORADAN. Blueprinting.

WILLIAM J. SKIFFINGTON. Blueprinting, Photography, etc.

RICHARD F. TOBIN. Field Work, Section 1, Dorchester Rapid Transit.

---

* Left the employ of the Transit Department.

APPENDIX II.

BIDS FOR GRANOLITHIC PLATFORMS FOR SHAWMUT STATION, DORCHESTER RAPID TRANSIT. JANUARY 4, 1928.

BIDDER.	Estimated Price.	Time.
C. M. Callahan, Inc	$4,100.00	20 days
Suffolk Construction Company	3,551.25	30 "
John F. Shea & Company	3,390.00	30 "
J. A. Singarella	3,206.25	30 "
M. F. Gaddis	3,168.75	14 "
J. Slotnik Company	3,083.75	20 "
A. G. Tomasello & Son, Inc.*	2,280.00	30 "

* Awarded. Contract 889.

APPENDIX III.

BIDS FOR FURNISHING AND DELIVERING 125 M. F. B. M., MORE OR LESS OF LONG-LEAF YELLOW PINE LUMBER FOR ASHMONT STATION ROOF, DORCHESTER RAPID TRANSIT. JANUARY 30, 1928.

BIDDER.	Estimated Price.	Time.
George McQuesten Company *	$4,974.94	45–60 days

* Awarded. Contract 892.

APPENDIX IV.

BIDS FOR ENTRANCE–EXIT BUILDING AND ADJUNCTS, ASHMONT STATION, DORCHESTER RAPID TRANSIT. JANUARY 30, 1928.

BIDDER.	Estimated Price.	Time.
Reynolds Bros., Inc	$35,000.00	90 days
White Construction Company, Inc	32,390.00	110 "
A. Piotti Company	29,956.00	110 "
J. Slotnik Company	29,472.00	115 "
John Bowen Company	29,420.00	90 " (weather permitting)
Thomas O'Connor & Company	28,948.00	90 days
Banspar Construction Company	27,700.00	110 "
J. A. Singarella	27,400.00	90 "
Suffolk Construction Company *	26,992.00	100 "

* Awarded. Contract 893.

APPENDIX V.

BIDS FOR FURNISHING LEAD COVERED RUBBER INSULATED CABLE AND SOFT DRAWN COPPER WIRE. FEBRUARY 6, 1928.

BIDDER.	Estimated Price.	Time.
Safety Cable Company	$52,223.00	30 days
Standard Underground Cable Company **	49,668.80	4 weeks
American Steel & Wire Company *	48,542 20	35 days 14 "
The Okonite Company †	40,485.76	35 "
Graybar Electric Company, Inc.†	37,546.00	40 "

* Awarded. Contract 894. 4 Items.
** Awarded. Contract 895. 1 Item.
† Omitted 1 Item.

APPENDIX VI.

BIDS FOR FURNISHING AND DELIVERING COVERED INSULATED WIRE AND CABLE. FEBRUARY 20, 1928.

BIDDER.	Estimated Price.	Time.
General Cable Corporation, Safety Cable Company Division	$4,400.94	45 days
Standard Underground Cable Company	4,079.85	42 "
The Okonite Company †	4,032.46	40 "
U. S. Rubber Company †‡	3,743.87	*a-e* 40 days *f-j* 50 "
Bishop Wire & Cable Corporation	3,538.27	42 days
American Steel & Wire Company † *	3,409.45	45 "

* Awarded. Contract 897. 8 Items.
† Omitted 1 Item.
‡ Prices conditional on receiving whole order.

APPENDIX VII.

BIDS FOR BUILDING A CONCRETE SEWER, CULVERTS AND A DRAINAGE DITCH, SECTION FIVE, DORCHESTER RAPID TRANSIT. MARCH 8, 1928.

BIDDER.	Estimated Price.	Time.
Bruno & Pettitti	$82,045.00	100 days
Reynolds Bros., Inc	79,500.00	150 "
John M. Tobin, Inc	60,447.50	170 "
Anthony Baruffaldi	59,947.50	120 "
A. G. Tomasello & Son, Inc	57,680.00	90 "
M. DeSisto Company	55,595.00	160 "
M. F. Gaddis	55,150.00	90 "
Louis Balboni	54,550.00	120 "
V. James Grande	50,510.00	120 "
A. DeStefano & Son, Inc	48,135.00	150 "
Banspar Construction Company	46,643.50	160 "
C. &. R. Construction Company *	45,510.60	120 "

* Awarded. Contract 899.

One-half cost to be paid by Metropolitan District Commission.

APPENDIX VIII.

BIDS FOR ASHMONT STATION SUPERSTRUCTURE. MARCH 26, 1928.

BIDDER.	Estimated Price.
C. & R. Construction Company	$115,000.00
White Construction Company	109,602.00
A. G. Tomasello & Son, Inc	93,400.00
M. S. Kelliher Company	89,782.00
J. A. Singarella	86,900.00
A. Piotti Company	86,714.00
J. F. Fitzgerald Construction Company	86,384.00
Banspar Construction Company	82,900.00
Phandor Company	75,239.00
J. Slotnik Company	71,800.00
Matthew Cummings Company *	68,881.00

* Awarded. Contract 898.

APPENDIX IX.

BIDS FOR A SYSTEM OF PLUMBING FOR ASHMONT STATION, DORCHESTER RAPID TRANSIT. APRIL 9, 1928.

BIDDER.	Estimated Price.	Time.
William H. Mitchell & Son Company	$5,400.00	60 days
The Downey Company	5,176.00	42 "
Edward C. Kelly	5,036.00	30 "
Pierce & Cox *	4,887.00	55 "

* Awarded. Contract 900.

APPENDIX X.

BIDS FOR PLASTERING A PORTION OF ASHMONT STATION, DORCHESTER RAPID TRANSIT. APRIL 9, 1928.

BIDDER.	Estimated Price.	Time.
Stephen T. Keith Company	$3,576.25	30 days
A. V. Day & Company *	3,375.00	40 "

* Awarded. Contract 901.

APPENDIX XI.

BIDS FOR BEALE STREET PASSAGEWAY, SECTION FOUR, DORCHESTER RAPID TRANSIT. APRIL 9, 1928.

BIDDER.	Estimated Price.	Time.
Matthew Cummings Company, Inc.	$12,272.50	60 days
Reynolds Bros., Inc	12,021.25	60 "
C. M. Callahan, Inc	11,727.00	45 "
J. F. Fitzgerald Construction Company	11,280.65	48 "
A. DeStefano & Son, Inc	10,536.25	45 "
C. & R. Construction Company	10,350.00	30 "
V. James Grande	10,348.50	90 "
Engineering Service & Construction Company	9,959.50	40 "
J. A. Singarella	9,781.00	60 "
A. G. Tomasello & Son, Inc.*	9,346.25	40 "
Banspar Construction Company	9,210.75	65 "
White Construction Company	8,724.00	70 "

* Awarded. Contract 902.

APPENDIX XII.

BIDS FOR FURNISHING AND DELIVERING 360 TONS, MORE OR LESS, OF STRUCTURAL STEEL. APRIL 12, 1928.

BIDDER.	Estimated Price.	Time.
Bethlehem Steel Company *	$16,366.24	45 days

* Awarded. Contract 903.

APPENDIX XIII.

BIDS FOR BUILDING A BRICK AND CONCRETE SIGNAL TOWER NEAR BEALE STREET, ASHMONT STATION, DORCHESTER RAPID TRANSIT. APRIL 16, 1928.

BIDDER.	Estimated Price.
J. Slotnik Company	$6,940.00
M. S. Kelliher Company	6,153.00
R. J. Connolly	6,000.00
J. A. Singarella	4,900.00
Banspar Construction Company *	4,897.00

* Awarded. Contract 904.

APPENDIX XIV.

BIDS FOR FURNISHING AND DELIVERING 13 TONS, MORE OR LESS, OF IRON AND STEEL CASTINGS AND FORGINGS. MAY 3, 1928.

BIDDER.	Estimated Price.	Time.
Franklin Machine Company	$4,087.00	70 days
Atlantic Works *	4,057.00	37 "
Progressive Iron Works, Inc. †	4,034.80	30 "

* Awarded. Contract 905.

† No bid at Auditor's Office.

APPENDIX XV.

BIDS FOR REBUILDING SIDEWALKS, GUTTERS, ETC., ON SECTION THREE, DORCHESTER RAPID TRANSIT. MAY 10, 1928.

BIDDER.	Estimated Price.	Time.
Banspar Construction Company	$1,809.50	27 days
A. G. Tomasello & Son, Inc.	1,513.50	30 "
C. M. Callahan, Inc	1,392.50	30 "
M. Solimando	1,314.25	30 "
B. E. Grant Company	1,245.50	60 "
Samuel J. Tomasello	1,190.25	20 "
J. A. Singarella *	1,179.05	30 "

* Awarded. Contract 906.

APPENDIX XVI.

BIDS FOR FURNISHING AND INSTALLING GRANOLITHIC PLATFORMS AND WALKS, ASHMONT STATION, DORCHESTER RAPID TRANSIT. MAY 10, 1928.

BIDDER.	Estimated Price.
C. M. Callahan, Inc	$18,375.00
A. G. Tomasello & Son, Inc	16,435.00
Banspar Construction Company	13,814.00
J. A. Singarella	13,650.00
M. Solimando	12,036.50
Matthew Cummings Company *	8,215.00

* Awarded. Contract 907.

APPENDIX XVII.

BIDS FOR FURNISHING AND ERECTING WOVEN WIRE FENCE, CONCRETE FENCE, POST FOUNDATIONS, CURBS AND WALLS. MAY 14, 1928.

BIDDER.	Estimated Price.
J. A. Singarella	$49,840.50
Guiney & Hanson Construction Company	29,446.79
M. Solimando	28,902.25
A. G. Tomasello & Son, Inc	27,160.75
Security Fence Company	26,506.24
Banspar Construction Company *	26,468.90

* Awarded. Contract 908.

APPENDIX XVIII.

BIDS FOR OAK HAND RAILS AND BRONZE FITTINGS, ASHMONT STATION AND VICINITY, DORCHESTER RAPID TRANSIT. JUNE 21, 1928.

BIDDER.	Estimated Price.	Time.
Millen Architectural Iron Works	$2,383.25	40 days
Banspar Construction Company	2,251.50	40 "
James A. Glass	1,924.50	30 "
Frank H. Letteney	1,708.58	21 "
Alphonsus L. Walsh *	1,392.20	30 "

* Awarded. Contract 911.

APPENDIX XIX.

BIDS FOR PAVING AND FENCES FOR ENCLOSED AREA AT FIELDS CORNER STATION, DORCHESTER RAPID TRANSIT. JUNE 21, 1928.

BIDDER.	Estimated Price.	Time.
Samuel J. Tomasello	$25,590.00	75 days
Banspar Construction Company	24,060.00	60 "
C. M. Callahan, Inc.	21,100.40	60 "
M. Solimando	20,294.80	40 "
A. G. Tomasello & Son, Inc.	19,237.75	40 "
J. A. Singarella *	18,560.50	90 "

* Awarded. Contract 912.

APPENDIX XX.

BIDS FOR FURNISHING AND LAYING WATER PIPE, CODMAN STREET YARD, DORCHESTER RAPID TRANSIT. JUNE 21, 1928.

BIDDER.	Estimated Price.	Time.
Banspar Construction Company	$3,114.20	60 days
John Williams	2,608.25	35 "
A. G. Tomasello & Son, Inc.	2,590.00	35 "
C. M. Callahan, Inc.*	2,583.75	30 "

* Awarded. Contract 913.

APPENDIX XXI.

BIDS FOR A BRICK BUILDING IN CODMAN STREET YARD, DORCHESTER RAPID TRANSIT. JUNE 21, 1928.

BIDDER.	Estimated Price.	Time.
John Bowen Company, Inc	$18,700.00	95 days
J. A. Singarella	17,800.00	110 "
M. Solimando	17,200.00	75 "
Guiney & Hanson Construction Company	16,990.00	120 "
Joseph F. Rugo	16,900.00	65 "
P. J. Cantwell	16,769.00	90 "
M. S. Kelliher Company	16,760.00	75 "
Banspar Construction Company *	16,493.00	60 "
J. Slotnik Company	16,293.00	80 "

* Awarded. Contract 914.

APPENDIX XXII.

BIDS FOR EARTH AND MASONRY EXCAVATION AND GRADING NEAR ASHMONT STATION, DORCHESTER RAPID TRANSIT. JULY 16, 1928.

BIDDER.	Estimated Price.	Time.
J. C. Coleman & Sons, Inc	$7,875.00	20 days
M. Solimando	6,387.50	35 "
Cronin & Driscoll *	4,620.00	18 "

* Awarded. Contract 917.

APPENDIX XXIII.

BID FOR BITUMINOUS MACADAM ROADWAY, CODMAN YARD, DORCHESTER RAPID TRANSIT. AUGUST 27, 1928.

BIDDER.	Estimated Price.	Time.
A. G. Tomasello & Son, Inc.*.....	$2,085.00	10 days

* Awarded. Contract 918.

APPENDIX XXIV.

BIDS FOR WROUGHT IRON PICKET FENCE, ASHMONT STATION, DORCHESTER RAPID TRANSIT. AUGUST 27, 1928.

BIDDER.	Estimated Price.	Time.
P. J. Dinn & Company.....	$3,979.20	45 days
Progressive Iron Works, Inc.....	3,399.00	8 weeks
American Architectural Iron Works.....	3,179.50	45 days
Boston Ornamental Iron & Bronze Co.....	3,089.60	75 "
W. A. Snow Iron Works, Inc.*.....	2,813.60	21 "

* Awarded. Contract 919.

APPENDIX XXV.

CANVAS OF BIDS FOR SECTION 5A DORCHESTER RAPID TRANSIT. AUGUST 29, 1928.

BIDDERS AND ADDRESSES	a Earth Excavation 10,000 Cu. Yds	2a Rock Excavation 9,000 Cu. Yds	3a Gravel Borrow 45,000 Cu. Yds	b Removing Masonry Etc., 800 Cu. Yds.	c Reinforced Concrete 3,500 Cu. Yds	2c Unreinforced Concrete 2,000 Cu. Yds	3c Small Stone Concrete 160 Cu. Yds	4c Cinder Concrete 200 Cu. Yds	5c Cement Mortar 100 Cu. Yds	8c Concrete Surfacing 250 Sq. Yds	7c Granolithic Walks 150 Sq. Yds	d Brick Masonry 50 Cu. Yds.	e Vitrified Pipe 4"-6"-8" x" 300 Lin. Ft.	2e Vitrified Pipe 10"-12" 1,200 Lin. Ft	3e Vitrified Pipe 15"-18" 50 Lin. Ft	f Reinforcing Rods 175 Tons.	2f Structural Steel 450 Tons	3f Galvanized Wire Cloth 11,000 Sq. Ft	g Grout (1–1) 50 Cu. Yds.	2g Grout (1–3) 50 Cu. Yds	k Supporting Buildings, Etc., Lump Sum.	l Spruce Piles 2,000 Lin. Ft.	m Removing and Resetting Neponset River Bridge Lump Sum.	2m Altering, Removing Crest Avenue Bridge, Etc., Lump Sum.	n Carborundum Finish of Walls, Etc., 3,000 Sq. Yds.	r Preparing Site, Etc., Lump Sum	Total	Time of Completion.
V. James Grande, 100 Academy Hill Road, Brighton	$5 00 50,000 00	$5 00 45,000 00	1 75 61,250 00	$5 00 4,000 00	$25 00 87,500 00	$25 00 50,000 00	$20 00 2,000 00	$20 00 4,000 00	$10 00 1,000 00	$9 50 125 00	$3 50 525 00	$40 00 2,000 00	$1 00 300 00	$1 25 1,500 00	$5 00 250 00	$100 00 17,500 00	$27 00 9,450 00	$0 10 1,100 00	$25 00 1,250 00	$20 00 1,000 00	15,000 00	$0 60 1,200 00	5,000 00	5,000 00	$0 50 1,500 00	10,000 00	$377,450 00	Dec 1, 1929
J. C. Coleman & Sons Co., 1620 Tremont St., Roxbury	2 00 20,000 00	6 00 54,000 00	2 00 70,000 00	5 00 4,000 00	30 00 105,000 00	20 00 40,000 00	20 00 2,000 00	15 00 3,000 00	20 00 2,000 00	1 00 250 00	3 00 450 00	50 00 2,500 00	0 75 225 00	1 50 1,800 00	5 00 250 00	90 00 15,750 00	50 00 17,500 00	0 20 2,200 00	40 00 2,000 00	25 00 1,250 00	10,000 00	1 00 6,000 00	5,000 00	3,000 00	1 00 3,000 00	1,000 00	372,175 00	150 Days
Paul Caputo, 18 Tremont St., Boston	0 75 7,500 00	4 00 36,000 00	1 25 43,750 00	10 00 8,000 00	28 00 98,000 00	20 00 40,000 00	15 00 1,500 00	12 00 2,400 00	20 00 2,000 00	2 00 500 00	4 50 675 00	30 00 1,500 00	1 00 300 00	1 25 1,500 00	3 00 150 00	77 00 13,475 00	45 00 15,750 00	0 03 330 00	30 00 1,000 00	12 00 600 00	35,000 00	2 00 4,000 00	2,200 00	500 00	0 50 1,500 00	5,000 00	323,130 00	250 Days
Coleman Bros., Inc., 245 State St., Boston	2 00 20,000 00	6 00 45,000 00	1 40 49,000 00	8 00 6,400 00	20 00 70,000 00	18 00 36,000 00	20 00 2,000 00	10 00 2,000 00	20 00 2,000 00	1 00 250 00	3 00 450 00	50 00 2,500 00	1 00 300 00	1 25 1,500 00	5 00 250 00	100 00 17,500 00	35 00 12,250 00	0 25 27 50	20 00 1,000 00	15 00 750 00	10,000 00	0 60 1,200 00	5,000 00	1,000 00	1 00 3,000 00	1,000 00	293,100 00	200 Days
White Coast Co., Inc., 11 Beacon St., Boston	1 00 10,000 00	4 00 36,000 00	1 25 43,750 00	2 00 1,600 00	22 00 77,000 00	15 00 30,000 00	25 00 2,500 00	10 00 2,000 00	16 00 1,600 00	9 00 225 00	2 70 405 00	40 00 2,000 00	1 00 300 00	1 00 1,200 00	2 50 125 00	90 00 15,750 00	30 00 10,500 00	0 05 550 00	50 00 2,500 00	40 00 2,000 00	30,000 00	1 25 2,500 00	2,500 00	2,500 00	0 10 300 00	15,000 00	292,205 00	250 Days
A. G. Tomasello & Son, 250 Stuart St., Boston	3 50 35,000 00	3 50 31,500 00	1 00 35,000 00	3 00 2,400 00	18 00 63,000 00	15 00 30,000 00	20 00 2,000 00	6 00 1,200 00	20 00 2,000 00	1 00 250 00	3 00 450 00	40 00 2,000 00	0 80 240 00	1 00 1,200 00	3 00 150 00	90 00 15,750 00	30 00 10,500 00	0 10 1,100 00	30 00 1,500 00	20 00 1,000 00	20,000 00	1 00 2,000 00	2,000 00	5,000 00	1 00 3,000 00	10,000 00	278,240 00	250 Days
C. & B. Const. Co., 75 Bradeen St., Roslindale	2 50 25,000 00	2 50 22,500 00	0 50 17,500 00	2 50 2,000 00	20 50 70,000 00	10 00 20,000 00	20 00 2,000 00	5 00 1,000 00	10 00 1,000 00	0 10 25 00	3 00 450 00	25 00 1,250 00	0 50 150 00	1 25 1,500 00	3 00 150 00	60 00 10,500 00	20 00 10,150 00	0 10 1,100 00	5 00 250 00	2 00 100 00	40,000 00	0 60 1,200 00	2,000 00	16,000 00	0 50 1,500 00	2,000 00	249,325 00	200 Days
Wm. J. Barry, 431 Ashland St., Roslindale	1 00 10,000 00	4 50 40,500 00	1 50 52,500 00	4 00 2,400 00	18 50 64,750 00	16 50 33,000 00	15 00 1,500 00	12 00 2,400 00	15 00 1,500 00	2 00 500 00	2 00 300 00	30 00 1,500 00	1 50 450 00	2 50 3,000 00	4 00 200 00	80 00 14,000 00	20 00 7,000 00	0 08 880 00	25 00 1,250 00	18 00 900 00	500 00	0 65 1,300 00	1,000 00	500 00	0 50 1,500 00	100 00	243,430 00	250 Days
Westcott & Munroe, 95 High St., N. Attleboro	0 80 8,000 00	4 50 40,500 00	0 95 33,250 00	1 00 800 00	16 00 56,000 00	10 00 20,000 00	25 00 2,500 00	0 00 1,200 00	0 00 2,500 00	0 25 62 50	3 00 450 00	30 00 1,500 00	0 75 225 00	1 00 1,200 00	5 00 250 00	80 00 14,000 00	25 00 8,750 00	0 12 1,320 00	15 00 750 00	12 00 600 00	10,000 00	1 00 2,000 00	2,000 00	2,000 00	0 75 2,250 00	2,000 00	242,607 50	275 Days
M. F. Gaddis, 6 Beacon St., Boston	1 50 15,000 00	6 00 45,000 00	0 80 28,000 00	2 00 1,600 00	18 00 63,000 00	14 00 28,000 00	20 00 2,000 00	8 00 1,600 00	20 00 2,000 00	1 00 250 00	3 50 525 00	50 00 2,500 00	1 00 300 00	1 50 1,800 00	4 00 200 00	83 00 14,525 00	30 00 10,500 00	0 15 1,650 00	9 00 300 00	6 00 300 00	1,000 00	0 50 1,000 00	2,000 00	2,000 00	0 50 1,500 00	15,000 00	281,550 00	300 Days

Contract awarded to M. F. Gaddis, September 4, 1928.

APPENDIX XXVI.

BIDS FOR CONCRETE WALLS, ROADWAY, ETC., PARKING AREA, ASHMONT STATION, DORCHESTER RAPID TRANSIT. SEPTEMBER 19, 1928.

BIDDER.	Estimated Price.	Time.
A. G. Tomasello & Son, Inc.	$12,392.50	45 days
Appel & O'Toole	12,237 50	90 "
L. S. Kaufman & Company	11,454.25	35 "
M. Solimando	10,467.50	45 "
Alphonsus L. Walsh *	9,091.25	20 "
Banspar Construction Company	8,630.00	43 "

* Awarded. Contract 921.

APPENDIX XXVII.

BIDS FOR SHELTER IN CONNECTION WITH PARKING AREA, ASHMONT STATION, DORCHESTER RAPID TRANSIT. OCTOBER 18, 1928.

BIDDER.	Estimated Price.	Time.
William J. Sheils	$2,980.00	12 days
Reynolds Brothers, Inc.	2,975.00	40 "
P. J. Cantwell & Son	2,784.00	45 "
M. S. Kelliher Company	2,553.00	35 "
Thomas Mulcare, Inc.	2,487.00	45 "
Suffolk Construction Company	2,440.00	30 "
M. Solimando	2,395.00	20 "
M. Spinelli & Sons	2,375.00	24 "
C. & C. Construction Company, Inc.	2,323.00	36 wkg. days
Banspar Construction Company	2,263.00	25 days
Alphonsus L. Walsh	2,250.00	20 "
James S. Mozzicato	2,000.00	40 "
J. A. Singarella	1,885.00	30 "
Guiney & Hanson Construction Company	1,787.00	30 "
The Norris Company *	1,700.00	21 "

* Awarded. Contract 923.

APPENDIX XXVIII.

BIDS FOR STAIRWAYS, BRIDGE, CANOPY AND FOOTWALK, COLUMBIA STATION, DORCHESTER RAPID TRANSIT. OCTOBER 29, 1928.

BIDDER.	Estimated Price.
Coleman Brothers, Inc.	$23,769.50
M. F. Gaddis	20,900.00
A. G. Tomasello & Son, Inc.*	20,494.00

* Awarded. Contract 924.

CITY OF BOSTON PRINTING DEPARTMENT.